

**SUMMARY REPORT
SOLID WASTE MANAGEMENT UNIT (SWMU) 198 SITE
FORMER MARINE CORPS AIR STATION
EL TORO, CALIFORNIA**

Contract No. N68711-02-F-8210

Modification No 0005

Prepared for:

**Department of the Navy
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, California 92132**

Prepared by:

**GEOFON, INC.
22632 Golden Springs Drive, Suite 270
Diamond Bar, California 91765**

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Prepared by:

A.V. Akkenapally

Sree Akkenapally, R.E.A.
Project Engineer

10/21/2003

Date

Reviewed by:

M. Faheem

Asrar Faheem
Project Manager

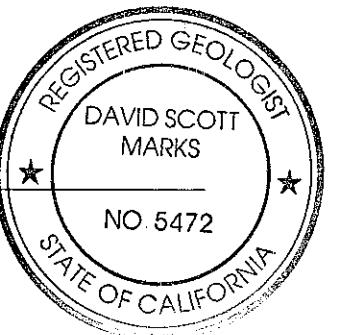
10/21/03

Date

Approved by:

David S. Marks

David S. Marks
Registered Geologist



10-21-03

Date

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- Appendix C: Soil Borings Survey Data and Map
- Appendix D: Laboratory Reports and Chain-of-Custody Records

LIST OF ACRONYMS

AROICC	Navy Assistant Resident Officer in Charge of Construction
BRAC	Base Realignment and Closure
BTEX	benzene, toluene, ethylbenzene, xylene
°C	degrees Celsius
CIH	Certified Industrial Hygienist
CO	Contracting Officer
CSO	Caretaker Site Office
DHS	California Department of Heath Services
DO	delivery order
DOT	Department of Transportation
DQOs	data quality objectives
DTSC	Department of Toxic Substance Control
EDD	electronic data deliverable
EPA	U.S. Environmental Protection Agency
GEOFON	GEOFON, Inc.
HAZMAT	hazardous materials
HCl	hydrochloric acid
HSA	hollow stem auger
IDW	Investigation-Derived Waste
LUFT	leaking underground fuel tank
MCAS	Marine Corps Air Station
MCX	Marine Corps Exchange
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
msl	mean sea level
MIBE	methyl tertiary butyl ether
NAD83	North American Datum of 1983
NEDIS	Navy Environmental Data Transfer Standard
NFESC	Naval Facilities Engineering Service Center

LIST OF ACRONYMS (CONT.)

OCHCA	Orange County Health Care Agency
OWS	oil/water separator
PCE	Tetrachloroethene
PPE	personal protective equipment
PID	photoionization detector
PQLs	Practical Quantitation Limits
PRGs	Preliminary Remediation Goals
QA	quality assurance
QC	quality control
QCR	quality control report
RCRA	Resource Conservation and Recovery Act
RI/FS	remedial investigation/feasibility study
RPM	remedial project manager
RWQCB	Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
SHSP	Site Health and Safety Plan
SOPs	standard operating procedures
SWDIV	Southwest Division
SWMU	solid waste management unit
TPH	total petroleum hydrocarbons
TRPH	total recoverable petroleum hydrocarbons
USTs	underground storage tanks
VOA	volatile organic analysis
VOCs	volatile organic compounds

1.0 INTRODUCTION

This Summary Report is intended to provide the results of recent field sampling activities performed at the solid waste management unit (SWMU) 198 Site, a former vehicle wash rack, located at the former Marine Corps Air Station (MCAS) El Toro, California. The field sampling activities were performed at the SWMU 198 Site in response to the Department Toxic Substance Control (DTSC) comments and recommendation (to perform a site assessment) in a letter dated, October 10, 2000 (DTSC, 2000). The recent field sampling data supplements the previous data that was collected during the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) in 1993.

The Department of the Navy, Southwest Division Naval Facilities Engineering Command (SWDIV), under Contract No N68711-02-F-8210, retained GEOFON, INC. (GEOFON) to perform site assessment at the SWMU 198 Site and prepare this report. The field activities associated with this site assessment were performed on July 14 and 15, 2003 in accordance with the Work Plan for Site Assessments at Various Former Underground Storage Tank Sites, dated July 2, 2003, which was approved by the Regional Water Quality Control Board-Santa Ana Region (RWQCB)

The purpose of the site assessment was to assess potential petroleum hydrocarbon and volatile organic compounds (VOC)-impacted soil associated with the wash rack drains, the sanitary sewer, and the storm drain that is connected to the former wash rack at the SWMU 198 Site. This report documents and summarizes the site assessment activities, including methods and procedures used during the site assessment, management and disposal of investigation-derived waste (IDW), summary of analytical results, findings, conclusions, and recommendations.

1.1 *Site Description*

The former MCAS El Toro was a master jet air station supporting the operations and combat readiness of Pacific Fleet Marine Forces. MCAS El Toro provided materials and support for aviation activities of the United States Marine Corps (USMC).

MCAS El Toro is located in a semi-urban agricultural area in Southern California. The station is situated about 8 miles southeast of the City of Santa Ana and 12 miles northeast of the city of Laguna Beach (Figure 1). Most of the land northwest of MCAS El Toro was historically used to grow oranges and other agricultural crops. Land to the south and northwest of the station has been developed as commercial, light industrial, and residential.

MCAS El Toro consists of approximately 4,700 acres in central Orange County adjacent to the convergence of Interstate Freeways I-5 and I-405 and the Eastern Transportation Corridor. Most

of the MCAS El Toro site is in unincorporated territory over which the County of Orange has direct land use planning and development authority. The southernmost portion of the MCAS El Toro site, approximately 342 acres south of the existing Burlington Northern and Santa Fe railroad tracks, which border the base, is within the incorporated boundary of the City of Irvine. El Toro has two 10,000 ft. and two 8,000 ft. runways.

The majority of the land immediately surrounding MCAS is used to raise oranges, strawberries, asparagus, and other agricultural crops. Portions of the station are leased for nursery use and agriculture use. The University of California, Irvine, has an agricultural field station directly north of MCAS. Located just northeast of the MCAS is a large nursery where fruit trees are grown. Until 10 years ago, the entire area surrounding MCAS was agricultural land; since then, urbanization has brought development closer to MCAS. About one-half mile northwest of the MCAS boundary are the main residential areas of the city of Irvine. The land farther north and northeast of MCAS in the Santa Ana Mountains and the San Joaquin Hills remains essentially undeveloped.

1.2 Site History

In March 1943, MCAS El Toro was commissioned as a Marine Corps pilot fleet operation training facility. In 1950, MCAS El Toro was selected for development as a master jet station and permanent center for Marine Corps aviation on the west coast to support the operations and combat readiness of Pacific Fleet Marine Forces. Since commissioning, MCAS El Toro has been utilized for aviation activities. Other activities that have been performed on the base include aircraft maintenance and refurbishing operations, metal plating, sewage treatment, and incineration of trash. These activities have generated waste oils, paint residues, hydraulic fluid, used batteries, and other wastes.

In March 1993, MCAS El Toro was placed on the Base Closure and Realignment Act (BRAC) list of proposed military facilities considered for base closure and was formally selected for closure in September of that year. During 1998 and early 1999, all of the aircraft squadrons were transferred to other Marine Corps and Naval Air Stations. All remaining military operations ceased when MCAS El Toro formally closed on 02 July 1999.

1.3 Report Organization

This report includes discussions of the site background; objectives, summary of site assessment field activities, laboratory analytical test methods used, summary of analytical results, conclusion and recommendations.

The report is organized as follows:

- Section 2.0 Site Background and Environmental Setting
- Section 3.0 Objectives
- Section 4.0 Summary of Site Assessment Field Activities
- Section 5.0 Laboratory Analysis
- Section 6.0 Laboratory Analytical Results and Discussion
- Section 7.0 Conclusions and Recommendations
- Section 8.0 Reference Sources

The following four appendices are attached:

- Appendix A: RFA and Soil Gas Samples Laboratory Results Summary, and DTSC Comments Letter.
- Appendix B: Soil Boring Logs
- Appendix C: Soil Borings Survey Data and Map
- Appendix D: Laboratory Reports and Chain-of-Custody Records

2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING

Soil and groundwater contamination at MCAS El Toro is a result of several past operations that were accepted practices (for example, in the 1940s, aircraft refurbishing included the use of solvents during degreasing activities). Between 1943 and 1955, municipal-type solid waste was generated by station housing (typical residential activities). Early disposal activities included incineration. Later, solid waste disposal was conducted at cut-and-fill landfill sites. Four landfills received solid waste, paint residues, oily wastes, industrial solvents, and incinerator ash. Fire-fighting training exercises were conducted at two burn pit areas and included the use of various flammable liquids such as jet fuel, aviation gasoline, and other waste liquids.

In addition to being part of the Installation Restoration Program, MCAS El Toro is included on the U.S. Environmental Protection Agency's National Priorities List of hazardous waste sites requiring cleanup. The Marine Corps/Navy and state and federal environmental regulatory agencies work in cooperation as the Base Realignment and Closure Cleanup Team to ensure compliance with environmental laws, rules, and regulations.

2.1 Previous Investigations

The SWMU 198 Site is located in the south-central portion of the facility, north of S Marine Way on the main MCAS facility as shown in Figure 2, Site Location Map of MCAS El Toro. SWMU 198 was a vehicle wash rack located on the north side of the Building 655, east of the former OWS 759A/UST 759B location as shown in Figure 3. The wash rack consists of a 120-foot long by 32-foot wide concrete pad with a concrete berm. The wash rack contains two catch basins that carried the rinse water to OWS 759A and UST 759B through a sanitary sewer line, as shown on Figure 3.

The former vehicle wash rack area was investigated as SWMU 198 during the RFA. As part of the RFA performed by Jacobs Engineering Group, Inc. in 1993 (JEG, 1993), four soil borings (198H1 through 198H4) were drilled to depths of 5 feet below ground surface (bgs) within the concrete wash rack area (see Figure 3). Soil samples were collected from each boring at depths of 2 feet and 5 feet bgs for laboratory analysis. Total petroleum hydrocarbons (TPH) was detected at a concentration of 56.1 milligrams per kilogram (mg/kg) in the sample collected at a depth of 2 feet from 198H-1, and at concentrations of 177 mg/kg and 54.7 mg/kg in samples collected at depths of 2 feet and 5 feet, respectively, from 198H4. Acetone, methylene chloride, toluene, and tetrachloroethene (PCE) were detected at concentrations ranging from 5 to 24 micrograms per kilogram ($\mu\text{g}/\text{kg}$), 2 to 8 $\mu\text{g}/\text{kg}$, 1 to 3 $\mu\text{g}/\text{kg}$, and 1 to 16 $\mu\text{g}/\text{kg}$, respectively. These results were flagged with a "BJ" or "B" qualifier during validation, indicating that the

compounds were also detected in the laboratory method blank and could be the result of laboratory contaminants. Based on these findings, it was recommended that the cracks in the pavement be repaired to prevent future migration of petroleum hydrocarbons. A summary of the results of the RFA for SWMU 198 Site is included in Appendix A.

In 1994, JEG collected one (1) soil gas sample from a sampling point (SG 458) located near a catch basin north of the wash rack (see Figure 3), as part of the remedial investigation/feasibility study (RI/FS) performed at the site (JEG, 1994). The soil gas sample was collected at a depth of 15 feet bgs and reported PCE at a concentration of 10.5 µg/L. A summary of the soil gas laboratory results is included in Appendix A.

Based upon the absence of evidence of a significant release of petroleum hydrocarbons and completion of repairs as recommended in the RCRA Facility Assessment, the Navy recommended no further action at SWMU 198. However, because the borings were not located adjacent to the wash rack drains, sanitary sewer or storm drain and VOCs were detected in the samples collected at the wash rack and beneath OWS 759A, the DTSC did not concur with the recommendation for no further action. In a letter (Appendix A) dated, October 10, 2000, the Department Toxic Substance Control (DTSC) recommended that a site assessment be conducted for the sanitary sewer and the storm drain connected to SWMU 198.

2.2 Environmental Setting

The local geology and soils, hydrogeology, surface hydrology and topography are discussed in the following subsections.

2.2.1 Site Geology and Soils

MCAS El Toro is underlain chiefly by Tertiary sedimentary rocks overlain by Holocene and Pleistocene surficial units (Fife 1974). The Holocene materials consist of isolated coarse grained, stream channel deposits contained within a matrix of fine-grained overbank deposits that range in thickness up to 300 feet (Herndon and Reilly 1989). The Holocene alluvial materials conformably overlie Pleistocene Age sediments predominantly composed of interlayered fine-grained lagoonal and near-shore marine deposits (Singer 1973). The deeper Quaternary sediments may be equivalent to the lower Pleistocene San Pedro Formation, which consists of semi consolidated silt, clays, and sands with interbedded limestone. These lagoonal and shallow marine deposits are considered to be a major water bearing unit in the region.

The Pleistocene deposits unconformably overlie older semi consolidated marine sandstones, siltstones, and conglomerates of late Miocene to late Pliocene age; these units make up the Niguel, Fernando, and Capistrano Formations. These semi consolidated sediments are

considered to be the bedrock near MCAS El Toro. The lower Pliocene Fernando Formation is the base of the water bearing units at MCAS El Toro (Herndon and Reilly 1989).

2.2.2 Hydrogeology

MCAS El Toro lies within the Irvine Groundwater Sub Basin (Irvine Sub Basin). The Irvine Sub Basin and the main basin underline the Tustin Plain and Downey Plain (DWR 1967), which are surficial physiographic features.

2.2.3 Surface Hydrology

Surface drainage near MCAS El Toro generally flows southwest, following the slope of the land perpendicular to the trend of the Santa Ana Mountains. Several washes originate in the hills northeast of MCAS El Toro and flow through or adjacent to the base en route to San Diego Creek. Off-base drainage from the hills and from upgradient irrigated farmlands combines with base runoff at MCAS El Toro and flows into four main drainage channels: Borrego Canyon, Agua Chinon, Bee Canyon, and Marshburn Channel. The southernmost wash is Borrego Canyon Wash, which flows along the southeast boundary of MCAS El Toro. Both Agua Chinon and Bee Canyon washes cross the central portion of MCAS El Toro. Marshburn Channel is a lined drainage channel that runs along the northwestern boundary of MCAS El Toro.

2.2.4 Topography

MCAS El Toro is situated on the southern edge of the Tustin Plain, a gently sloping surface of alluvial fan deposits derived mainly from the Santa Ana Mountains and on the south by the San Joaquin Hills, is at the southeast end of the Los Angeles Basin, a large sedimentary basin in the Peninsular Ranges Geologic Province. At the west corner of MCAS El Toro, the elevation is approximately 215 feet above mean sea level (MSL) and rises to approximately 800 feet above MSL at the east corner, in the foothills of the Santa Ana Mountains.

3.0 OBJECTIVES

The objectives of this site assessment were to:

- Install borings and collect soil samples in the immediate vicinity of former wash rack area to assess potential petroleum hydrocarbon and VOC-impacted soil associated with the wash rack drains, the sanitary sewer, and the storm drain that is connected to the former wash rack.
- Obtain the subsurface soil condition data (i.e. soil type, geotechnical data, depth to groundwater, petroleum hydrocarbon concentration levels in the soil, etc.) to support site closure and compliance with the DTSC/RWQCB requirements.
- Prepare site assessment report with a summary of findings, conclusions and recommendation for site closure, if appropriate.

4.0 SUMMARY OF SITE ASSESSMENT FIELD ACTIVITIES

Site assessment activities were performed at the SWMU 198 Site on July 14 and 15, 2003. Site assessment activities included a geophysical utility clearance; drilling three (3) soil borings; collecting soil samples, laboratory analyses, management of IDW, and surveying of soil borings. Work was performed in accordance with the following documents: Work Plan for Site Assessments, Sampling and Analysis Plan, and Site-Specific Health and Safety Plan.

The following subsections describe the soil sampling strategy, and methods and procedures used during the site assessment of the SWMU 198 Site with respect to utility clearance, sample collection, sample handling, packaging, shipment and documentation, sampling equipment decontamination procedures, and management of IDW.

4.1 *Underground Utility Clearance*

The utility clearance consisted of reviewing site-specific utility maps, conducting a field reconnaissance, performing geophysical survey of the site, notifying Underground Service Alert of the intent to drill and clear the boring locations and utility lines. A Utility Clearance Request application was also prepared and submitted to the Navy Caretaker Site Office for review and approval prior to the initiation of field activities. Prior to drilling, hand augering was performed to approximately 5 feet bgs to further evaluate the potential presence of underground utilities.

No underground utilities were detected in the immediate vicinity of the soil boring locations.

4.2 *Soil Boring Locations and Sampling Strategy*

In order to assess potential petroleum hydrocarbon and VOC-impacted soil associated with the wash rack drains, the sanitary sewer, and the storm drain that is connected to the former wash rack, three soil borings, SWMU198-SB-1 through SWMU198-SB-3, were drilled in the vicinity of SWMU 198. The locations of the soil borings are shown in Figure 3. The soil borings were placed as follows:

- Soil boring SWMU198-SB-1 was drilled east of Building 759 at the 45-degree bend in the sanitary sewer line leading to former OWS759A and USI 759B to assess potential releases from the sanitary sewer line. Since the preliminary field screening for VOCs with a photo ionization detector (PID) established a clean zone for VOCs by three appropriate “non-detects” from 15 to 25 feet bgs, drilling of soil boring SWMU198-SB-1 was terminated at 25 feet bgs. Soil samples were collected at 5-foot intervals starting at 5 feet bgs and continued to the total depth drilled.

- Soil boring SWMU198-SB-2 was drilled adjacent to the western wash rack catch basin, near the sanitary sewer line to assess potential releases at the catch basin and the sanitary sewer line beneath the concrete wash rack. Since the preliminary field screening for VOCs with a PID established a clean zone for VOCs by three appropriate “non-detects” from 15 to 25 feet bgs, drilling of soil boring SWMU198-SB-2 was terminated at 25 feet bgs. Soil samples were collected at 5-foot intervals starting at 5 feet bgs and continued to the total depth drilled.
- Soil boring SWMU198-SB-3 was drilled north of the wash rack near the catch basin in the asphalt lot that is connected to the storm drain to assess potential releases at the catch basin and the storm drain line. Since the preliminary field screening for VOCs with a PID established a clean zone for VOCs by three appropriate “non-detects” from 15 to 25 feet bgs, drilling of soil boring SWMU198-SB-3 was terminated at 25 feet bgs. Soil samples were collected at 5-foot intervals starting at 5 feet bgs and continued to the total depth drilled.

4.3 Drilling and Soil Sampling Methodology

The soil borings were drilled using a truck-mounted hollow-stem auger (HSA) drill rig. Soil samples were collected from each soil boring at 5-foot intervals using split-spoon sampling method. Preliminary field screening for VOCs was conducted on soil samples from each sampling interval (i.e., at 5-foot intervals) using a PID calibrated to an isobutylene standard. If PID reading established a clean zone for VOCs by at least three appropriate “non-detects” from 15 to 25 feet bgs, drilling of the boring was terminated at 25 feet bgs. Soil borings SWMU198-SB-1 through SWMU198-SB-3 were drilled to a depth of 25 feet bgs and a total of five depth-discrete soil samples were collected at 5-foot intervals (i.e., at 5-, 10-, 15-, 20-, and 25-feet bgs) from each boring.

As drilling progressed, depth-discrete soil samples were collected from each boring at 5-foot intervals starting at 5 feet bgs and continued to the total depth drilled for chemical analysis using a steel split-spoon sampler. When a specified sampling depth is reached, multiple 2 1/2-inch diameter by 6-inch long stainless steel or brass sleeves were loaded into a decontaminated split-spoon sampler. The split-spoon sampler was lowered to the sampling depth and driven into the soil to collect the sample. When the split-spoon sampler was brought to the surface, the two bottom sleeves were removed immediately. The sleeves were then capped with Teflon™ squares and plastic end caps. The outer surface of the sample containers was wiped clean with a fresh paper towel and properly labeled. The sleeves were placed in individual self-sealing plastic bags and immediately packed into a thermally insulated ice chilled cooler maintained at 4° C prior to and during transportation of the samples to the laboratory. The split-spoon sampler was

decontaminated between each sample location using standard detergent and deionized water rinse procedures.

In addition, soil samples were collected from each soil type encountered during drilling activities for the following geotechnical analyses; dry bulk density, effective porosity, volumetric water content, recharge rate, and carbon organic content.

Prosonic Corporation of Signal Hill, California, performed drilling at the site. The soil borings were drilled under the supervision of a California-registered Geologist. A GEOFON Geologist visually logged each boring in accordance with the Unified Soil Classification System (USCS, Appendix B, Figure B-1), collected soil samples, and monitored all field activities. Logs of borings (SWMU198-SB-1 through SWMU198-SB-3) are shown on Figures B-2 through B-4 (Appendix B). Soil boring logs indicate that subsurface soils consist primarily of clayey sand and clays.

4.3.1 Sampling Equipment Decontamination Procedures

The following procedure for decontamination of sampling equipment was performed:

1. Wash with non-phosphate detergent.
2. Rinse with tap-water.
3. Deionized/distilled water rinse.
4. Deionized/distilled water rinse (twice).

Equipment rinsates were collected daily, but analyzed every other day unless contamination was detected.

4.3.2 Sample Handling, Packaging, and Shipment

Each sample was identified by a unique number, coded to indicate the sampling location and depth. Sample labels were completed and affixed to the appropriate sample containers. The labels were secured with waterproof tape and included the sample identification number, the parameter(s) to be analyzed, the sampler's initials, and the preservative used. At the time of sample collection, a member of the field team added the date and time of sample collection.

After all labeling and custody information had been verified, samples were placed in coolers for shipment to the analytical laboratory. Adequate ice was used to maintain cooler temperatures at 4° C during shipment. A chain-of-custody form accompanied each cooler, listing the samples inside the cooler, the desired analyses, and other necessary information. The chain-of-custody form was placed in a self-sealing plastic bag and placed inside the cooler. The cooler was

adequately sealed, and a signed custody seal was applied to the opposite sides of the cooler lid for security and accountability.

4.4 Surveying of Soil Borings

Calvada Surveying, Inc., a land surveyor registered in the State of California, surveyed the locations of soil borings SWMU198-SB-1 through SWMU-SB-3 on August 6, 2003 after the conclusion of field activities. The surveyed locations were measured to +/- 0.01 feet vertically and +/- 0.1 feet horizontally and referenced to the California State Plane Coordinate System, North American Datum 1983. A copy of the survey data and map of these borings is included as Appendix C.

4.5 Management of Investigation-Derived Waste

Soil cuttings, personal protective equipment, and rinsate water generated during drilling, sampling, and decontamination operations were containerized in DOT-approved 55-gallon drums and appropriately labeled. Upon completion of work at the site, investigation-derived waste (IDW) was transported to a designated storage area at MCAS El Toro until final disposition of the IDW is determined. Before transporting the IDW to the storage area, each 55-gallon drum was inventoried, given a unique designation for tracking purposes, and logged on IDW tracking forms.

5.0 LABORATORY ANALYSES

On July 15, 2003, the samples were transported to BC Laboratories, Inc. in Bakersfield, California for analysis, under proper chain-of-custody protocols. BC Laboratories, Inc. is certified by the California Department of Health Services (DHS) Environmental Laboratory Accreditation Program (ELAP) for analysis of hazardous materials for each method required for this project, and has successfully completed the Naval Facilities Engineering Service Center (NFESC) Laboratory Evaluation Program.

All soil samples were analyzed using the following EPA SW-846 methods:

- EPA Method 8015 Modified for Total Petroleum Hydrocarbons (TPH-D and TPH-G) and
- EPA Method 8260B for VOCs (including benzene, toluene, ethylbenzene, xylenes [BTEx], methyl-tertiary butyl ether [MTBE], and other fuel oxygenates)

Soil samples with the highest reported IPH concentrations from each soil boring were also analyzed by the Synthetic Precipitation Leaching Procedure (SPLP) by EPA Method 1312.

6.0 LABORATORY ANALYTICAL RESULTS AND DISCUSSION

Laboratory analysis of soil samples collected from boring SWMU198-SB-1 detected IPH-D and IPH-G only in one soil sample at concentrations of 5.1 mg/kg and 0.030 mg/kg, respectively. IPH-D and IPH-G were not detected above the laboratory's practical quantitation limit (PQL) in the soil samples collected between the depths of 15 and 25 feet bgs. Benzene was detected at concentrations ranging from 0.42 to 0.61 µg/kg. Toluene, xylenes, ethylbenzene, and MTBE were not detected above their respective laboratory's PQL in any of the soil samples collected from soil boring SWMU198-SB-1. Acetone and methylene chloride were detected at concentrations ranging from 9.10 to 50 µg/kg and 3.20 to 11 µg/kg, respectively. PCE was detected in concentrations ranging from 0.81 to 44 µg/kg.

Laboratory analysis of soil samples collected from soil boring SWMU198-SB-2 indicate that TPH-D was detected in only one sample collected at a depth of 5 feet bgs at a concentration of 7.2 mg/kg and TPH-G concentrations ranged from 0.055 to 0.063 mg/kg. TPH-D and TPH-G were not detected above the laboratory's PQL in the soil samples collected between the depths of 15 and 25 feet bgs. Benzene was detected in only one soil sample collected at a depth of 15 feet bgs at a concentration of 0.91 µg/kg. Toluene was detected at concentrations ranging from 0.78 to 1.30 µg/kg. Ethylbenzene, xylenes, and MTBE were not detected above their respective laboratory's PQL in any of the soil sample collected from boring SWMU198-SB-2. Acetone and PCE were detected at concentrations ranging from 12 to 17 µg/kg and 0.52 to 1.50 µg/kg, respectively. Methylene chloride was detected in only one soil sample collected at a depth of 20 feet bgs at a concentration of 23 µg/kg.

Laboratory analysis of soil samples collected from soil boring SWMU198-SB-3 indicate that TPH-D was detected in only one sample collected at a depth of 5 feet bgs at a concentration of 44 mg/kg and TPH-G concentrations ranged from 0.028 to 0.056 mg/kg. TPH-D was not detected above the laboratory's PQL in the soil samples collected between the depths of 15 and 25 feet bgs. Benzene and toluene were detected at concentrations ranging from 0.44 to 0.58 µg/kg and 0.61 to 0.77 µg/kg, respectively. Ethylbenzene, xylenes, and MTBE were not detected above their respective laboratory's PQL in any of the soil sample collected from boring SWMU198-SB-3. Acetone, methylene chloride, and methyl ether ketone (MEK) were detected at concentrations ranging from 8.20 to 140 µg/kg, 0.83 to 8.00 µg/kg, and 2.50 to 17 µg/kg, respectively. PCE was detected in concentrations ranging from 0.38 to 24 µg/kg. Trichloroethene (TCE) was detected in only one soil sample collected at a depth of 5 feet bgs at a concentration of 0.48 µg/kg.

A summary of laboratory analytical results of TPH-D, TPH-G, and VOCs analysis is shown in Table 1 and SPLP analysis is shown in Table 2. A copy of the laboratory reports and chain-of-custody records are provided in Appendix D.

Evaluation of the Extent of the Release:

Very minor petroleum hydrocarbon and VOC release has been identified in the soils associated with the wash rack drains, the sanitary sewer, and the storm drain that is connected to the former wash rack. Based on the significant decline in TPH-D, TPH-G, benzene, toluene, TCE, and PCE concentrations with increasing depth of the soil boring and since these constituents were not detected beyond 15 feet bgs; the vertical extent of impacted soil appears to be located between approximately 5 to 15 feet bgs and the release does not appear to extend beyond 15 feet bgs and to the groundwater.

Evaluation of the SPLP Analysis Results:

Soil samples with the highest reported TPH concentrations were analyzed for leachability by the SPLP. The maximum TPH-D concentrations and their associated SPLP concentrations are presented in Figure 4 for comparison purpose. The maximum TPH-D concentration of 44 mg/kg was detected in a soil sample collected from boring SWMU198-SB-3 at a depth of 5 feet bgs and the associated SPLP (leachate) concentration was not detected above the laboratory's PQL. The maximum benzene concentration of 0.91 µg/kg was detected in soil sample collected from boring SWMU198-SB-2 at a depth of 15 feet bgs and the associated SPLP (leachate) concentration was not detected above the laboratory's PQL. The SPLP concentrations for toluene and TCE were not detected above their respective laboratory's PQL. The maximum PCE concentration detected was 44 µg/kg and the associated SPLP (leachate) concentration was 0.11 µg/l, which is less than 1% of the PCE concentration in the associated soil sample.

Comparison of VOCs Concentrations with Preliminary Remediation Goals (PRGs)

The VOCs detected in soil samples collected from three borings SWMU198-SB-1 through SWMU198-SB-3 include benzene, toluene, PCE, TCE, MEK, methylene chloride, and acetone. The maximum concentrations of benzene, toluene, PCE, TCE, MEK, methylene chloride, and acetone were 0.91 µg/kg, 1.30 µg/kg, 44 µg/kg, 0.48 µg/kg, 17 µg/kg, 23 µg/kg, and 140 µg/kg, respectively. These detected VOCs maximum concentrations were compared to their respective USEPA Region 9 PRGs for residential soil (USEPA 2002). The residential soil PRGs for each VOC are presented in Table 1. The PRGs for benzene, toluene, PCE, TCE, MEK, methylene chloride, and acetone are 600 µg/kg, 520,000 µg/kg, 1,500 µg/kg, 53 µg/kg, 7,300,000 µg/kg, 9,100 µg/kg, and 1,600,000 µg/kg, respectively. The concentrations of benzene, toluene, PCE, TCE, MEK, methylene chloride, and acetone are significantly below their respective PRGs.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are based on the data collected during the recent field sampling activities (as well as previous site investigations), laboratory analytical results of the soil samples, and professional judgment:

- The former vehicle wash rack at Building 655 was investigated as SWMU 198 during the RFA. Soil samples collected during the RFA in 1993 from four locations on the wash rack exhibited very low concentrations of TPH, acetone, methylene chloride, toluene, and PCE. The concentrations of acetone, methylene chloride, toluene, and PCE detected in soil samples during the RFA were below their respective PRGs. The Navy repaired cracks in the wash rack surface in 1998, as recommended in the RFA Report.
- Fifteen (15) soil samples were collected from three (3) borings located in the immediate vicinity of former vehicle wash rack area during site assessment activities conducted in July 2003. Based upon the evaluation of the field and laboratory data, a minor release of petroleum hydrocarbon was identified in the vicinity of former vehicle wash rack area and release extends 5 to 10 feet bgs vertically. The concentrations of TPH-D and TPH-G were significantly low.
- Significant decline in TPH-D, TPH-G benzene, toluene, and PCE concentrations were noted with increasing depth of the soil borings and the concentrations decreased to non-detect levels from 15 to 25 feet bgs.
- Concentrations of benzene, toluene, PCE, ICE, MEK, methylene chloride, and acetone detected in the soil samples were significantly low and were below their respective PRGs. MTBE was not detected in the soil samples collected during the site assessment.
- The residual petroleum hydrocarbons and VOCs at SWMU 198 Site have limited mobility based upon the evaluation of leachate concentrations reported from the SPLP analysis. Leachate concentrations were non-detect and/or less than 1 % compared to the concentrations in the associated soil samples, and consequently, the residual petroleum hydrocarbons and VOCs are considered to have a low migration potential.
- Since the groundwater is located at approximately 100 feet bgs and based on the low leaching potential for residual hydrocarbons and VOCs (SPLP analysis), the potential for remaining petroleum hydrocarbons and VOCs at SWMU 198 Site to significantly impact groundwater quality is considered to be low.

Based upon the limited vertical extent of the release of petroleum hydrocarbons and VOCs, the low leaching potential for residual petroleum hydrocarbons and VOCs, the absence of significant

levels of benzene, the absence of MIBE, since detected VOCs are below their respective PRGs, and since there is no potential impact to groundwater quality from remaining petroleum hydrocarbons and/or VOCs at SWMU 198 Site, no further action is recommended for the SWMU 198 Site and the case be closed.

8.0 REFERENCE SOURCES

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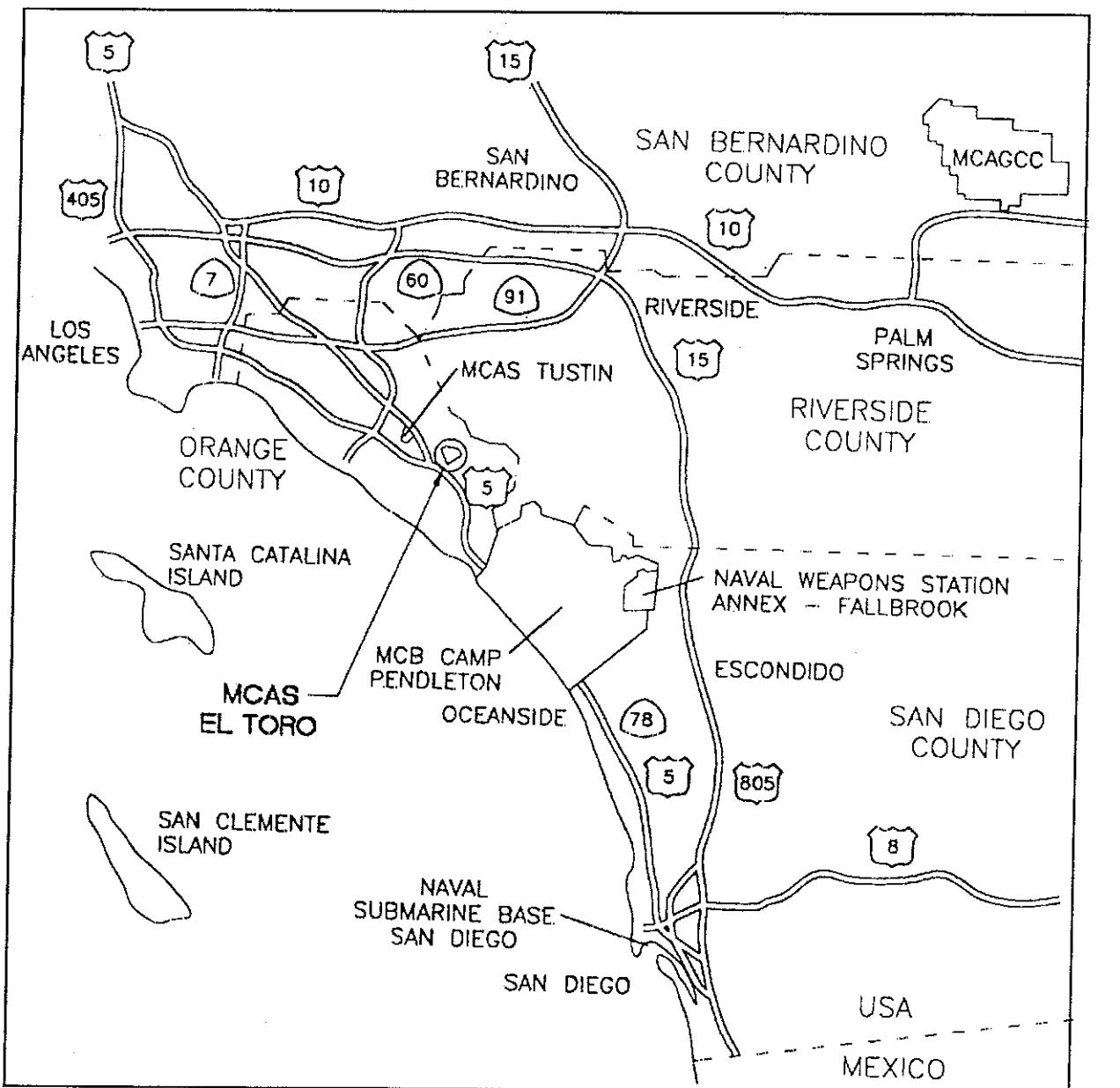
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FIGURES



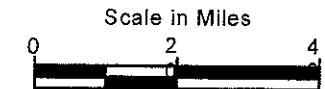
PROJECT VICINITY MAP
FIGURE 1

Marine Corps Air Station (MCAS)
El Toro, California



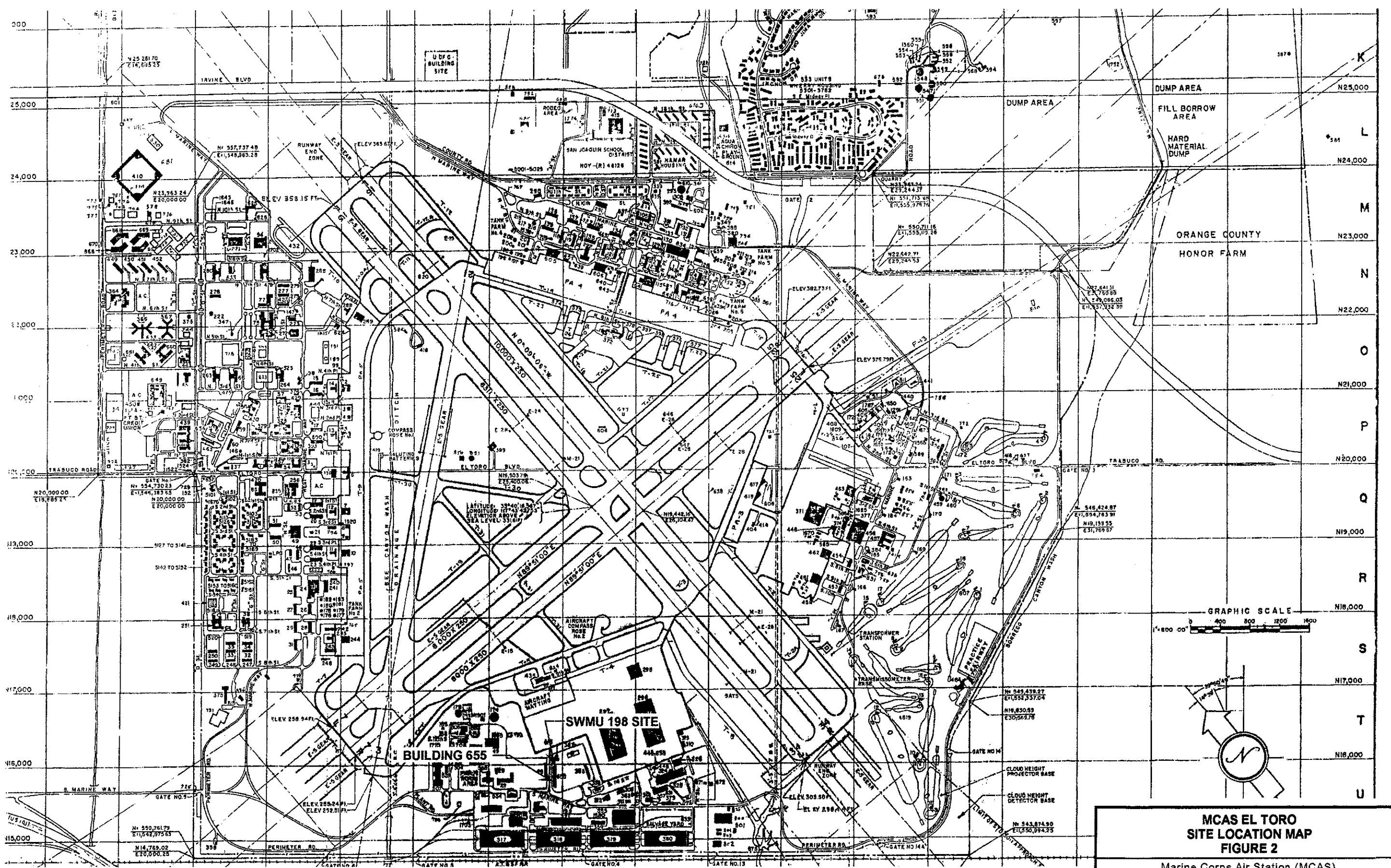
GEOFON
INCORPORATED

Date: October, 2003
Contract No.: N68711-02-F-8210



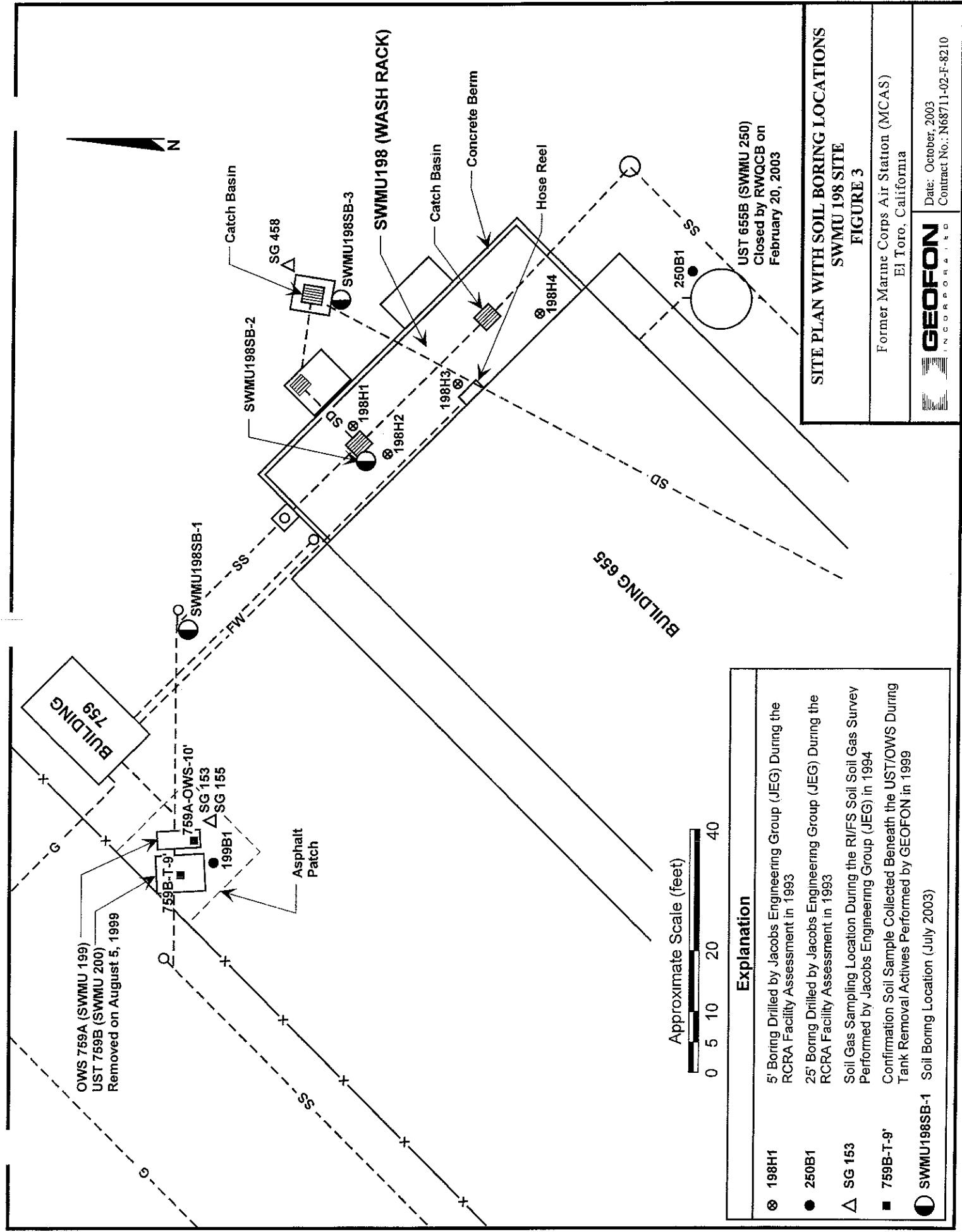
Reference: Map Prepared by Klienfelder

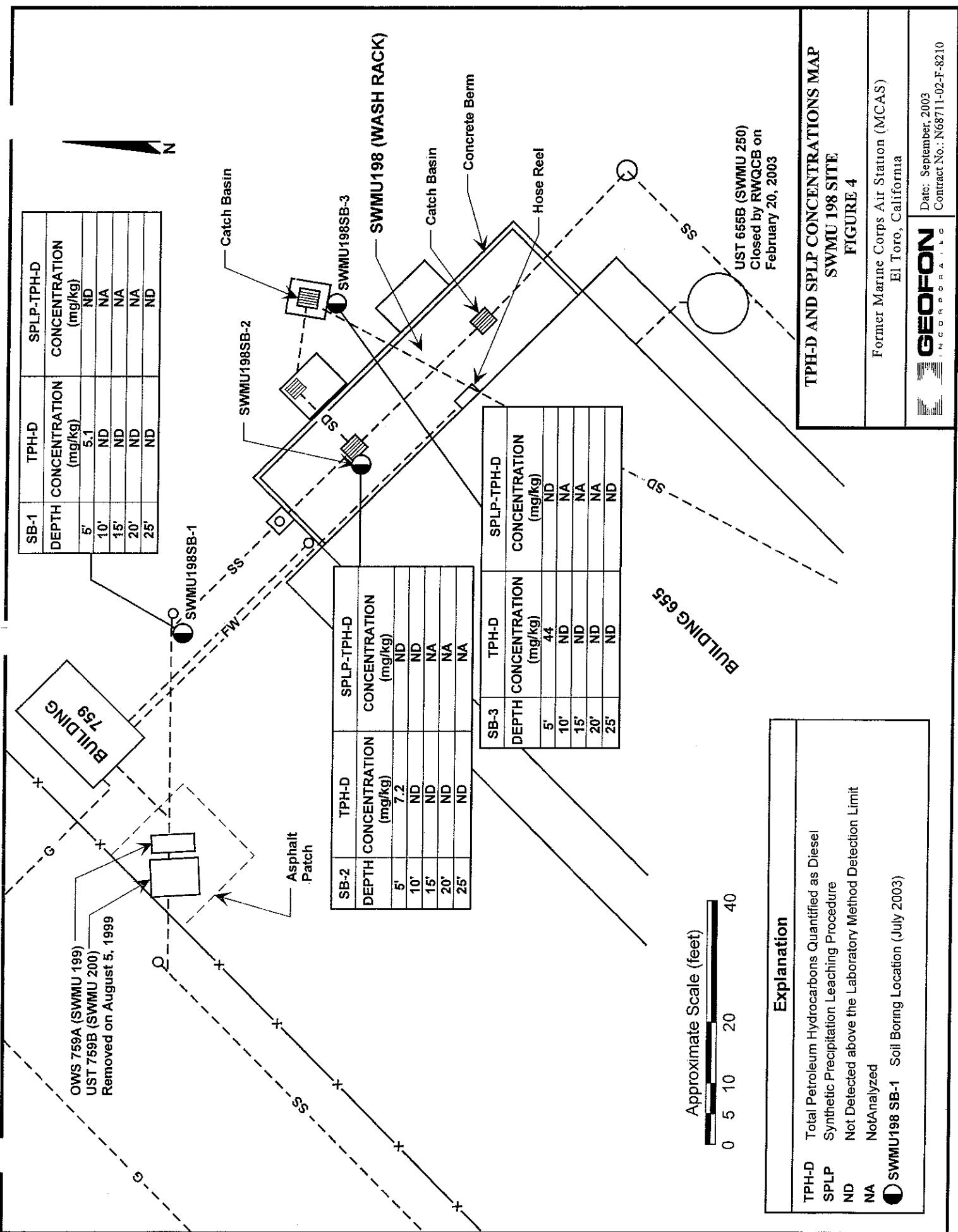




**MCAS EL TORO
SITE LOCATION MAP
FIGURE 2**

**Marine Corps Air Station (MCAS)
El Toro, California**





TABLES

**Table 1: Summary of Laboratory Analytical Results of TPH-D, TPH-G, and VOCs Analysis
SWMU198 Site, Former MCAS El Toro, California**

Chemical Analyte	EPA Method	Units	PRGs	PQL	Soil Boring Samples						
					Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	
Total Petroleum Hydrocarbons											
TPH-D (C12-C24)	80.15M	mg/kg	-	10	5.1	ND	ND	ND	ND	ND	ND
TPH-G	80.15M	mg/kg	-	see sample ID	(PQL-0.5)	ND	(PQL-0.5)	ND	(PQL-0.5)	ND	(PQL-0.7)
Volatile Organic Compounds											
Benzene	R260B	ug/kg	600	10.00	0.51	0.47	0.61	0.42	ND	ND	ND
Bromoethane	R260B	ug/kg	820	10.00	ND	ND	ND	ND	ND	ND	ND
Bromotform	R260B	ug/kg	620	50.00	ND	ND	ND	ND	ND	ND	ND
Bromomethane	R260B	ug/kg	3,900	30.00	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	R260B	ug/kg	250	10.00	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	R260B	ug/kg	150,000	10.00	ND	ND	ND	ND	ND	ND	ND
Chloroethane	R260B	ug/kg	3,000	30.00	ND	ND	ND	ND	ND	ND	ND
Chloroform	R260B	ug/kg	940	10.00	ND	ND	ND	ND	ND	ND	ND
Chloromethane	R260B	ug/kg	1,200	30.00	ND	ND	ND	ND	ND	ND	ND
Dibromoethane	R260B	ug/kg	1,100	10.00	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	R260B	ug/kg	2,800	10.00	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	R260B	ug/kg	280	10.00	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	R260B	ug/kg	120,000	10.00	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	R260B	ug/kg	43,000	10.00	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	R260B	ug/kg	69,000	10.00	ND	ND	ND	ND	ND	ND	ND
1,2-Dihloropropane	R260B	ug/kg	340	10.00	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dihloropropene	R260B	ug/kg	--	10.00	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dihloropropene	R260B	ug/kg	--	10.00	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	R260B	ug/kg	3,900	10.00	ND	ND	ND	ND	ND	ND	ND
Methylen Chloride	R260B	ug/kg	9,100	50.00	11.00	ND	ND	ND	ND	ND	ND
Syrene	R260B	ug/kg	1,700,000	10.00	ND	ND	ND	ND	ND	ND	ND
1,1,2-Tetrachloroethane	R260B	ug/kg	410	10.00	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	R260B	ug/kg	1,500	10.00	44.00	1.50	2.00	0.81	ND	ND	ND
Toluene	R260B	ug/kg	520,000	10.00	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	R260B	ug/kg	1,200,000	10.00	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	R260B	ug/kg	730	10.00	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	R260B	ug/kg	53	10.00	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	R260B	ug/kg	79	30.00	ND	ND	ND	ND	ND	ND	ND
Acetone	R260B	ug/kg	270,000	10.00	ND	ND	ND	ND	ND	ND	ND
t-Amyl Methyl Ether	R260B	ug/kg	1,600,000	30.00	50.00	34.00	ND	20.00	9.10	ND	ND
t-Butyl alcohol	R260B	ug/kg	--	3.00	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	R260B	ug/kg	360,000	50.00	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	R260B	ug/kg	--	3.00	ND	ND	ND	ND	ND	ND	ND
Ethy Tertiary-Butyl Ether	R260B	ug/kg	--	3.00	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	R260B	ug/kg	--	50.00	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl ketone	R260B	ug/kg	7,300,000	6.00	5.30	ND	ND	ND	ND	ND	ND
Methyl Isobutyl ketone	R260B	ug/kg	790,000	6.00	ND	ND	ND	ND	ND	ND	ND
Methyl-Tertiary Butyl Ether	R260B	ug/kg	62,000	10.00	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	R260B	ug/kg	430,000	6.00	ND	ND	ND	ND	ND	ND	ND

Definitions:

All analyte concentrations are in the same units as the PQL.

TPH-D: Total Petroleum Hydrocarbons as Diesel

TPH-G: Total Petroleum Hydrocarbons as Gasoline

VOC: VOCs: The units have been changed from mg/kg (units reported in original lab data) to ug/kg for report convenience purposes (GEOFON)

PRGs: Preliminary Remediation Goals (for residential soil according to the 2002 USEPA Region 9 PRGs Table)

NA: Not Analyzed
PQL: Practical Quantitation Limit
ND: Not Detected
mg/kg: Milligrams per Kilograms
μg/kg: Micrograms per Kilograms

--: No Svc PRG

Table 1: Summary of Laboratory Analytical Results of TPH-D, TPH-G, and VOCs Analysis
SWMU198 Site, Former MCAS El Toro, California

Chemical Analyte	EPA Method	Units	PRGs	PQL	Soil Boring Samples									
					Sample ID SWMU198-SB-2-S'	Sample ID SWMU198-SB-2-10'	Sample ID SWMU198-SB-2-10'	Sample ID SWMU198-SB-2-15'	Sample ID SWMU198-SB-2-20'	Sample ID SWMU198-SB-2-25'				
Total Petroleum Hydrocarbons														
TPH-D (C12-C24)														
TPH-G	8015M	mg/kg	--	10	7.2	ND	ND	ND	(PQL-0.6)	ND				
	8015M	mg/kg	--	sea sample ID	(PQL-0.6)	0.035	(PQL-0.6)	0.063	(PQL-0.6)	ND				
Volatile Organic Compounds														
Benzene	8260B	ug/kg	600	10.00	ND	ND	0.91	ND	ND	ND				
Bromodichromethane	8260B	ug/kg	820	10.00	ND	ND	ND	ND	ND	ND				
Bromoform	8260B	ug/kg	620	50.00	ND	ND	ND	ND	ND	ND				
Bromomethane	8260B	ug/kg	1,900	30.00	ND	ND	ND	ND	ND	ND				
Carbon Tetrachloride	8260B	ug/kg	250	10.00	ND	ND	ND	ND	ND	ND				
Chlorobenzene	8260B	ug/kg	150,000	10.00	ND	ND	ND	ND	ND	ND				
Chloroethane	8260B	ug/kg	3,000	30.00	ND	ND	ND	ND	ND	ND				
Chloroform	8260B	ug/kg	940	10.00	ND	ND	ND	ND	ND	ND				
Chlormethane	8260B	ug/kg	1,200	30.00	ND	ND	ND	ND	ND	ND				
Dibromochromethane	8260B	ug/kg	1,100	10.00	ND	ND	ND	ND	ND	ND				
1,1-Dichloroethane	8260B	ug/kg	2,800	10.00	ND	ND	ND	ND	ND	ND				
1,2-Dichloroethane	8260B	ug/kg	280	10.00	ND	ND	ND	ND	ND	ND				
1,1-Dichloroethene	8260B	ug/kg	120,000	10.00	ND	ND	ND	ND	ND	ND				
cis-1,2-Dichloroethene	8260B	ug/kg	43,000	10.00	ND	ND	ND	ND	ND	ND				
trans-1,2-Dichloroethene	8260B	ug/kg	69,000	10.00	ND	ND	ND	ND	ND	ND				
1,2-Dichloropropane	8260B	ug/kg	340	10.00	ND	ND	ND	ND	ND	ND				
cis-1,2-Dichloropropene	8260B	ug/kg	--	10.00	ND	ND	ND	ND	ND	ND				
trans-1,3-Dichloropropene	8260B	ug/kg	--	10.00	ND	ND	ND	ND	ND	ND				
Ethylbenzene	8260B	ug/kg	8,300	10.00	ND	ND	ND	ND	ND	ND				
Methylene Chloride	8260B	ug/kg	9,100	30.00	ND	ND	ND	ND	ND	ND				
Styrene	8260B	ug/kg	1,700,000	10.00	ND	ND	ND	ND	ND	ND				
1,1,2,2-Tetrachloroethane	8260B	ug/kg	410	10.00	ND	ND	ND	ND	ND	ND				
Tetrachloroethene	8260B	ug/kg	1,500	10.00	1.40	1.50	0.94	0.32	ND	ND				
Toluene	8260B	ug/kg	520,000	10.00	1.00	0.91	1.30	0.78	0.92	ND				
1,1,1-Trichloroethane	8260B	ug/kg	1,260,000	10.00	ND	ND	ND	ND	ND	ND				
1,1,2-Trichloroethane	8260B	ug/kg	730	10.00	ND	ND	ND	ND	ND	ND				
Trichloroethene	8260B	ug/kg	53	10.00	ND	ND	ND	ND	ND	ND				
Vinyl Chloride	8260B	ug/kg	79	30.00	ND	ND	ND	ND	ND	ND				
Xylenes (Total)	8260B	ug/kg	270,000	10.00	ND	ND	ND	ND	ND	ND				
Acetone	8260B	ug/kg	1,600,000	30.00	17,000	16,00	14,00	12,00	12,00	ND				
t-Amyl Methyl Ether	8260B	ug/kg	--	3.00	ND	ND	ND	ND	ND	ND				
t-Butyl alcohol	8260B	ug/kg	--	200,00	ND	ND	ND	ND	ND	ND				
Carbon disulfide	8260B	ug/kg	360,000	50.00	ND	ND	ND	ND	ND	ND				
Di-Isopropyl Ether	8260B	ug/kg	--	3.00	ND	ND	ND	ND	ND	ND				
Ethyl Teriary-Butyl Ether	8260B	ug/kg	--	3.00	ND	ND	ND	ND	ND	ND				
2-Hexanone	8260B	ug/kg	--	50,00	ND	ND	ND	ND	ND	ND				
Methyl Ethyl Ketone	8260B	ug/kg	7,300,000	6.00	ND	ND	ND	ND	ND	ND				
Methyl Isobutyl Ketone	8260B	ug/kg	790,000	6.00	ND	ND	ND	ND	ND	ND				
Methyl-Tertiary Butyl Ether	8260B	ug/kg	62,000	10.00	ND	ND	ND	ND	ND	ND				
Vinyl acetate	8260B	ug/kg	450,000	6.00	ND	ND	ND	ND	ND	ND				

Definitions:

All analyte concentrations are in the same units as the PQL.

TPH-D: Total Petroleum Hydrocarbons as Diesel

TPH-G: Total Petroleum Hydrocarbons as Gasoline

VOC 8260B: The units have been changed from mg/kg (units reported in original lab data) to ug/kg for report convenience purposes (GEOFOON).

PRGs: Preliminary Remediation Goals (for residential soil according to the 2002 USEPA Region 9 PRGs Table 1).

NA: Not Analyzed

PQL: Practical Quantitation Limit

ND: Not Detected

mg/kg: Milligrams per Kilograms

ug/kg: Micrograms per Kilograms

--: No Set PRG

**Table 1: Summary of Laboratory Analytical Results of TPH-D, TPH-G, and VOCs Analysis
SWMU198 Site, Former MCAS El Toro, California**

Chemical Analyte	EPA Method	Units	PRCs	PQL	Sample ID		Sample ID		Sample ID		Soil Boring Samples	
					SWMU198-SB-3'5'	SWMU198-SB-3'10'	SWMU198-SB-3'15'	759-DUPE-8 (Dup of SWMU198-SB-3'15')	759-DUPE-8 (Dup of SWMU198-SB-3'20')	Sample ID	Sample ID	Sample ID
Total Petroleum Hydrocarbons												
TPH-D (C12-C24)	8015M	µg/kg	—	—	10	(PQL-60)	44	ND	ND	ND	(PQL-0.6)	0.052
TPH - G	8015M	µg/kg	—	—	see sample ID	(PQL-0.5)	0.056	(PQL-0.6)	0.028	(PQL-0.6)	(PQL-0.6)	ND
Volatile Organic Compounds												
Benzene	8260B	ug/kg	600	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	8260B	ug/kg	820	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	8260B	ug/kg	620	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	8260B	ug/kg	3,900	30,000	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	8260B	ug/kg	250	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	8260B	ug/kg	150,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	8260B	ug/kg	3,000	30,000	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	8260B	ug/kg	940	10,000	0.34	ND	ND	ND	ND	ND	ND	ND
Chloromethane	8260B	ug/kg	1,260	30,000	ND	ND	ND	ND	ND	ND	ND	ND
Dibromoethane	8260B	ug/kg	1,100	10,000	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	8260B	ug/kg	2,360	10,000	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	8260B	ug/kg	280	10,000	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	8260B	ug/kg	120,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethane	8260B	ug/kg	43,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethane	8260B	ug/kg	69,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	8260B	ug/kg	340	10,000	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	8260B	ug/kg	**	10,000	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	8260B	ug/kg	—	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	8260B	ug/kg	8,900	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	8260B	ug/kg	9,100	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	8260B	ug/kg	1,700,100	10,000	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	8260B	ug/kg	410	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	8260B	ug/kg	1,560	10,000	24,00	0.38	1.40	ND	ND	ND	ND	ND
Toluene	8260B	ug/kg	520,000	10,000	0.61	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	8260B	ug/kg	1,200,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	8260B	ug/kg	730	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	8260B	ug/kg	53	10,000	0.48	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	8260B	ug/kg	79	30,000	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	8260B	ug/kg	270,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	8260B	ug/kg	1,680,000	30,000	140,000	40,000	8,20	ND	ND	ND	ND	ND
t-Butyl Methyl Ether	8260B	ug/kg	—	3,00	ND	ND	ND	ND	ND	ND	ND	ND
t-Butyl Alcohol	8260B	ug/kg	—	200,000	4,00	5,70	ND	ND	ND	ND	ND	ND
Carbon disulfide	8260B	ug/kg	360,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND
Di-isopropyl Ether	8260B	ug/kg	—	3,00	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Teriary-Butyl Ether	8260B	ug/kg	—	3,00	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	8260B	ug/kg	—	50,00	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	8260B	ug/kg	7,500,000	6,00	17,00	4,10	ND	ND	ND	ND	ND	ND
Methyl Isobutyl Ketone	8260B	ug/kg	750,000	6,00	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-Tertiary Butyl Ether	8260B	ug/kg	62,000	10,00	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	8260B	ug/kg	450,000	6,00	ND	ND	ND	ND	ND	ND	ND	ND

Definitions:

All analytic concentrations are in the same units as the PQL.

TPH-D: Total Petroleum Hydrocarbons as Diesel

TPH-G: Total Petroleum Hydrocarbons as Gasoline

VOC: 8260B: The units have been changed from µg/kg (units reported in original lab date) to µg/kg for report convenience purposes (GEOFFON)

PRGs: Preliminary Remediation Goals (for residential soil according to the 2002 USEPA Region 9 PRGs Table)

NA: Not Analyzed

PQL: Practical Quantitation Limit

ND : Not Detected

mg/kg: Milligrams per Kilograms

µg/kg: Micrograms per Kilograms

~: No Set PRG

Table 2: Summary of Laboratory Analytical Results of SPLP Analysis
SWMU198 Site, Former MCAS El Toro, California

Chemical Analyte	EPA Method	Units	PQL	Soil Boring Samples	
				Sample ID	Sample ID
Total Petroleum Hydrocarbons					
TPH-D (C12-C24)	80154	ug/L	2	ND	ND
TPH - G	80154	ug/L	0.050	0.023	0.024
Volatile Organic Compounds					
Benzene	8260B	ug/L	0.50	ND	ND
Bromodichloroethane	8260B	ug/L	0.50	ND	ND
Bromoform	8260B	ug/L	50.00	ND	ND
Bromonemethane	8260B	ug/L	1.00	ND	ND
Carbon Tetrachloride	8260B	ug/L	0.50	ND	ND
Chlorobenzene	8260B	ug/L	0.50	ND	ND
Chloroethane	8260B	ug/L	0.50	ND	ND
Chloroform	8260B	ug/L	0.50	ND	ND
Chloromethane	8260B	ug/L	0.50	ND	ND
Dibromoethane	8260B	ug/L	0.50	ND	ND
1,1-Dichloroethane	8260B	ug/L	0.50	ND	ND
1,2-Dichloroethane	8260B	ug/L	0.50	ND	ND
1,1,1-Dichloroethene	8260B	ug/L	0.50	ND	ND
cis-1,2-Dichloroethene	8260B	ug/L	0.50	ND	ND
trans-1,2-Dichloroethene	8260B	ug/L	0.50	ND	ND
1,2-Dichloropropane	8260B	ug/L	0.50	ND	ND
cis-1,3-Dichloropropene	8260B	ug/L	0.50	ND	ND
trans-1,3-Dichloropropene	8260B	ug/L	0.50	ND	ND
Ethylbenzene	8260B	ug/L	0.50	ND	ND
Methylene Chloride	8260B	ug/L	1.00	0.31	0.33
Styrene	8260B	ug/L	0.50	ND	ND
1,1,2-Tetrafluoroethane	8260B	ug/L	0.50	ND	ND
Tetrafluoroethene	8260B	ug/L	0.50	0.11	ND
Toluene	8260B	ug/L	0.50	ND	ND
1,1,1-Trifluoroethane	8260B	ug/L	0.50	ND	ND
1,1,2-Trifluoroethane	8260B	ug/L	0.50	ND	ND
Trichloroethene	8260B	ug/L	0.50	ND	ND
Vinyl Chloride	8260B	ug/L	0.50	ND	ND
Xylenes (Total)	8260B	ug/L	1.00	ND	ND
Acetone	8260B	ug/L	20.00	12.00	12.00
t-Butyl Methyl Ether	8260B	ug/L	1.00	ND	ND
t-Butyl alcohol	8260B	ug/L	12.00	ND	ND
Carbon disulfide	8260B	ug/L	1.00	ND	ND
Di-isopropyl Ether	8260B	ug/L	1.00	ND	ND
Ethyl Tertiary-Butyl Ether	8260B	ug/L	1.00	ND	ND
2-Hexanone	8260B	ug/L	20.00	ND	ND
Methyl ethyl ketone	8260B	ug/L	20.00	4.50	4.50
Methyl Isobutyl Ketone	8260B	ug/L	ND	ND	ND
Methyl-Tertiary Butyl Ether	8260B	ug/L	0.50	ND	ND
Vinyl acetate	8260B	ug/L	20.00	ND	ND

Definitions:

All analyte concentrations are in the same units as the PQL.

TPH-D: Total Petroleum Hydrocarbons as Diesel

TPH-G: Total Petroleum Hydrocarbons as Gasoline

SPLP: Synthetic Precipitation Leaching Procedure

VOC 320B: The units have been changed from ug/L (units reported in original lab data) to ug/L for report convenience purposes (GEOFON)

NA: Not Analyzed
ND: Not Detected
PQL: Practical Quantitation Limit
ug/L: Milligrams per Liter
ug/L: Micrograms per Liter

Table 2: Summary of Laboratory Analytical Results of SPLP Analysis
SWMU198 Site, Former MCAS El Toro, California

Chemical Analyte	EPA Method	Units	PQL	Soil Boring Samples		
				Sample ID SWMU198-SB-2-5'	Sample ID SWMU198-SB-2-10'	Sample ID SWMU198-SB-2-25'
Total Petroleum Hydrocarbons						
TPH-D (C12-C24)	80.5M	mg/L	L	ND	ND	NA
TPH-G	30.5M	mg/L	0.050	ND	ND	NA
Volatile Organic Compounds						
Benzene	8260B	ug/L	0.50	ND	NA	ND
Bromoethane	8260B	ug/L	0.50	ND	NA	ND
Bromoform	8260B	ug/L	50.00	ND	NA	ND
Bromoethane	8260B	ug/L	1.00	ND	NA	ND
Carbon Tetrachloride	8260B	ug/L	0.50	ND	NA	ND
Chlorobenzene	8260B	ug/L	0.50	ND	NA	ND
Chloroethane	8260B	ug/L	0.50	ND	NA	ND
Chloroform	8260B	ug/L	0.50	ND	NA	ND
Chlorothane	8260B	ug/L	0.50	ND	NA	ND
Dihromethane	8260B	ug/L	0.50	ND	NA	ND
1,1-Dichloroethane	8260B	ug/L	0.50	ND	NA	ND
1,2-Dichloroethane	8260B	ug/L	0.50	ND	NA	ND
1,1-Dichloroethene	8260B	ug/L	0.50	ND	NA	ND
cis-1,2-Dichloroethene	8260B	ug/L	0.50	ND	NA	ND
trans-1,2-Dichloroethene	8260B	ug/L	0.50	ND	NA	ND
1,2-Dichloropropane	8260B	ug/L	0.50	ND	NA	ND
cis-1,3-Dichloropropene	8260B	ug/L	0.50	ND	NA	ND
trans-1,3-Dichloropropene	8260B	ug/L	0.50	ND	NA	ND
Ethylbenzene	8260B	ug/L	0.50	ND	NA	ND
Methylene Chloride	8260B	ug/L	1.00	1.4	NA	1.6
Styrene	8260B	ug/L	0.50	ND	NA	ND
1,1,2,2-Tetrachloroethane	8260B	ug/L	0.50	ND	NA	ND
Tetrahydroethane	8260B	ug/L	0.50	ND	NA	ND
Toluene	8260B	ug/L	0.50	0.72	NA	ND
1,1,1-Trichloroethane	8260B	ug/L	0.50	ND	NA	ND
1,1,2-Trichloroethane	8260B	ug/L	0.50	ND	NA	ND
Trichloroethene	8260B	ug/L	0.50	ND	NA	ND
Vinal Chloride	8260B	ug/L	0.50	ND	NA	ND
Xylenes (Total)	8260B	ug/L	1.00	ND	NA	ND
Acetone	8260B	ug/L	20.00	ND	NA	ND
t-Anyl Methyl ether	8260B	ug/L	1.00	ND	NA	ND
t-Butyl acetol	8260B	ug/L	12.00	ND	NA	ND
Carbon disulfide	8260B	ug/L	1.00	ND	NA	ND
Di-isopropyl Ether	8260B	ug/L	1.00	ND	NA	ND
Ethyl Tertiary-Butyl Ether	8260B	ug/L	1.00	ND	NA	ND
2-Heanone	8260B	ug/L	20.00	ND	NA	ND
Methyl ethyl ketone	8260B	ug/L	20.00	ND	NA	ND
Methyl Isobutyl ketone	8260B	ug/L	20.00	ND	NA	ND
Methyl-Tertiary Butyl Ether	8260B	ug/L	0.50	ND	NA	ND
Vinyl acetate	8260B	ug/L	20.00	ND	NA	ND

Definitions:

All analyte concentrations are in the same units as the PQL.

TPH-D: Total Petroleum Hydrocarbons as Diesel

TPH-G: Total Petroleum Hydrocarbons as Gasoline

SPLP: Synthetic Precipitation Leaching Procedure

VOC 8260B: The unit have been changed from mg/L (units reported in original lab data) to ug/L for report convenience purposes (GEOFON)

NA: Not Analyzed

ND: No Detected

PQL: Practical Quantitation Limit

ug/L: Milligrams per Liter

ug/L: Micrograms per Liter

**Table 2: Summary of Laboratory Analytical Results of SPLP Analysis
SWMU198 Site, Former MCAS El Toro, California**

Chemical Analyte	EPA Method	Units	PQL	Soil Boring Samples	
				Sample ID SWMU198-SB-3-5'	Sample ID SWMU198-SB-3-25'
Total Petroleum Hydrocarbons					
TPH-D (C12-C24)	8015M	ug/L	2	ND	ND
TPH-G	8015M	ug/L	0.150	ND	NA
Volatile Organic Compounds					
Benzene	8260B	ug/L	0.50	ND	NA
Bromodifluoromethane	8260B	ug/L	0.50	ND	NA
Brornesol	8260B	ug/L	50.00	ND	NA
Bromoethane	8260B	ug/L	1.00	ND	NA
Carbon Tetrachloride	8260B	ug/L	0.50	ND	NA
Chlorobenzene	8260B	ug/L	0.30	ND	NA
Chloroethane	8260B	ug/L	0.50	ND	NA
Chloroform	8260B	ug/L	0.50	ND	NA
Chloronmethane	8260B	ug/L	0.50	ND	NA
Dibromoethane	8260B	ug/L	0.50	ND	NA
1,1-Dichlorethane	8260B	ug/L	0.50	ND	NA
1,2-Dichlorethane	8260B	ug/L	0.50	ND	NA
1,1-Dichloroethene	8260B	ug/L	0.50	ND	NA
cis-1,2-Dichloroethene	8260B	ug/L	0.50	ND	NA
trans-1,2-Dichloroethene	8260B	ug/L	0.50	ND	NA
1,2-Dichloropropene	8260B	ug/L	0.50	ND	NA
cis-1,3-Dichloropropene	8260B	ug/L	0.50	ND	NA
trans-1,3-Dichloropropene	8260B	ug/L	0.50	ND	NA
Ethylbenzene	8260B	ug/L	0.50	ND	NA
Methylene Chloride	8260B	ug/L	1.00	2.3	NA
Styrene	8260B	ug/L	0.50	ND	NA
1,1,2,2-Tetrachloroethane	8260B	ug/L	0.50	ND	NA
Tetrachloroethene	8260B	ug/L	0.50	ND	NA
Toluene	8260B	ug/L	0.50	ND	NA
1,1,1-Trichloroethane	8260B	ug/L	0.50	ND	NA
1,1,2-Trichloroethane	8260B	ug/L	0.50	ND	NA
Trichloroethene	8260B	ug/L	0.50	ND	NA
Vinyl Chloride	8260B	ug/L	0.50	ND	NA
Xylenes (Total)	8260B	ug/L	1.00	ND	NA
Acetone	8260B	ug/L	20.00	ND	NA
t-Butyl Methyl Ether	8260B	ug/L	1.50	ND	NA
t-Butyl alcohol	8260B	ug/L	12.00	ND	NA
Carbon disulfide	8260B	ug/L	1.50	ND	NA
Di Isopropyl Ether	8260B	ug/L	1.50	ND	NA
Ethyl Tertiary-Butyl Ether	8260B	ug/L	1.00	ND	NA
2-Hexanone	8260B	ug/L	20.00	ND	NA
Methyl ethyl ketone	8260B	ug/L	20.00	ND	NA
Methyl Isobutyl Ketone	8260B	ug/L	20.00	ND	NA
Methyl-Tertiary Butyl Ether	8260B	ug/L	0.50	ND	NA
Vinyl acetate	8260B	ug/L	20.00	ND	NA

Definitions:

All analyte concentrations are in the same units as the PQL.

TPH-D: Total Petroleum Hydrocarbons as Diesel

TPH-G: Total Petroleum Hydrocarbons as Gasoline

SPLP: Sonochemical Precipitation Latching Procedure

VOC:260B: The units have been changed from ug/L (units reported in original lab data) to ug/L for report convenience purposes (GEOFON)

NA: Not Analyzed

ND : Not Detected

PQL: Practical Quantitation Limit

ug/L: Milligrams per Liter

ug/L: Micrograms per Liter

APPENDICES

APPENDIX A

RFA AND SOIL GAS SAMPLES LABORATORY RESULTS SUMMARY AND DTSC COMMENTS LETTER

**Summary of Laboratory Analytical Results
1993 RFA Sampling Visit
SWMU 198 Site (Vehicle Wash Rack)**

Soil Sampling within the Concrete Wash Rack Area

Chemical Analyte	Units	PRGs	Sample ID						
		H1-2'	H1-5'	H2-2'	H2-5'	H3-2'	H3-5'	H4-2'	H4-5'
TPH	mg/kg	--	56.1	ND	ND	ND	ND	ND	54.7
Methylene Chloride	ug/kg	9,100	5 BJ	5 BJ	2 BJ	6 BJ	6 BJ	8 BJ	5 BJ
Acetone	ug/kg	1,600,00	10 BJ	ND	24 BJ	9 BJ	7 BJ	10 BJ	7 BJ
Toluene	ug/kg	520,000	ND	3 J	3 J	2 J	1 J	3 J	ND
PCE	ug/kg	1,500	ND	5 J	1 J	16	2 J	9 J	2 J

Notes:

RFA: RCRA Facility Assessment

SWMU: Solid Waste Management Unit

PRGs: Preliminary Remediation Goals (for residential soil according to the 2002 USEPA Region 9 PRGs Table)

TPH: Total petroleum hydrocarbons

PCE: Tetrachloroethene

H1-2': Boring number and sample depth

mg/kg: Milligrams per Kilogram

ug/kg: Micrograms per Kilogram

--: No set PRG

BJ: Estimated value

MCAS EL TORO RCRA FACILITY ASSESSMENT - SAMPLING VISIT REPORT

MCAS EL TORO RCRA FACILITY ASSESSMENT ... SAMPLING VISIT RESULTS												
SWMUA/AOC NUMBER	TYPE (FIGURE)	SAMPLE		ANALYTICAL TEST RESULTS						RECOMMENDATIONS	Rationale	
		DEPTH (FEET)	BORING NUMBER	TPH (mg/kg)	TFH (mg/kg)	Gasoline	Diesel	VOCs (ug/kg)	SVOCs (ug/kg)	PESTICIDES/PCBs (ug/kg)	METALS (mg/kg)	
198	Vehicle Wash Rack (61)	H1	2	56.1	NA	NA	NA	Methylene Chloride-5 BJ *	NA	NA	NA	To prevent future migration of petroleum hydrocarbons. Repair cracks in pavement.
								Acetone-10 BJ *				
			5	ND	NA	NA	NA	Methylene Chloride-5 BJ *	NA	NA	NA	
								Toluene-3 J				
								PCE-5 J				
		H2	2	ND	NA	NA	NA	Methylene Chloride-2 BJ *	NA	NA	NA	
								Acetone-2-e B *				
								Toluene-3 J				
			2	ND	NA	NA	NA	Methylene Chloride-7 BJ *	NA	NA	NA	
								PCE-1 J				
								Methylene Chloride-7 BJ *	NA	NA	NA	
								PCE-3 J				
			5	ND	NA	NA	NA	Methylene Chloride-5 BJ *	NA	NA	NA	
								Acetone-9 BJ *				
								Toluene-2 J				
								PCE-16				
		H3	2	ND	NA	NA	NA	Methylene Chloride-6 BJ *	NA	NA	NA	
								Acetone-7 BJ *				
								Toluene-i J				
			5	ND	NA	NA	NA	Methylene Chloride-8 BJ *	NA	NA	NA	
								Acetone-10 BJ *				
								Toluene-3 J				
								PCE-2 J				
								PCE-9 J				
		H4	2	177	NA	NA	NA	Methylene Chloride-8 BJ *	NA	NA	NA	
								Acetone-7 BJ *				
								PCE-2 J				
			5	54.7	NA	NA	NA	Methylene Chloride-5 BJ *	*	NA	NA	
								Acetone-5 J *				
								Toluene-2 J				

Table 3-6
MCAS El Toro Soil Gas Survey Technical Memorandum

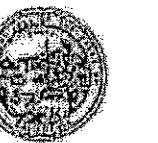
Concentrations Detected In Soil Gas													Concentration in ug/m ³							
(1) Key to Full Parameter names in Legend.		Station ID	Depth	Sample ID	PCE	TCE	C12DCE	T12DCE	11DCA	VC	111TCA	112TCA	TCTFA	CT	CHCl ₃	TPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
24_SG131	12	S145G1131			7.8 FI															
24_SG131	20	S145G1431			12.5 FI															
24_SG131	20	S145G3034			14.4 FI															
24_SG139	12	S145G1139					1			2.5 FI	5.2						160	7.9		2.2
24_SG139	12	S145G2017																		
24_SG139	12	S145G2018																		
24_SG139	12	S145G2019																		
24_SG139	12	S145G2020																		
24_SG143	12	S145G1143																		
24_SG151	15	S145G1151			1.8 FI															
24_SG153	12	S145G1153			5 FI															
24_SG153	12	S145G2038			5.2 FI															
24_SG153	12	S145G2034			5.9 FI															
24_SG153	12	S145G2036			4.9	1											18	2.6		2.3
24_SG153	12	S145G2039			2.1	2.4														
24_SG154	12	S145G2035			5.8 FI	1.3														
24_SG154	12	S145G2038				3.4														
24_SG155	12	S145G1155			4.6 FI															
24_SG155	20	S145G1455			5.1 FI															
24_SG158	15	S145Q1156			1.1		2.7	1												
24_SG157	15	S145G1157																		
24_SG157	15	S145G3145																		
24_SG160	12	S145G1160			1.5	27.9 FI											2.6 FI			
24_SG160	20	S145G1460			2.2	63.9 FI											10.6 FI			
24_SG161	12	S145G1161			1.7 FI	37.7 FI											1.8	24.3 FI		
24_SG161	20	S145G1461			2 FI	46.8 FI											12.1 FI			
24_SG162	12	S145G1162			4.6												14.8 FI			
24_SG162	20	S145G1462			1.8	1.1												3.9		
24_SG162	20	S145G3049			2.4	1.3													4.1	
24_SG163	12	S145G1163			2.9 FI	73.6 FI											5 FI			
24_SG163	20	S145G1463			2.4 FI	68.1 FI											4.4 FI			
24_SG165	12	S145G1165			5.7															
24_SG166	20	S145G1466			7.6 FI												1.1 FI			
24_SG167	12	S145G1167			3.2															
24_SG167	20	S145G1467			1.2															
24_SG168	12	S145G1168			4.3	101.9 FI											3.1 FI	1.6		1.5
24_SG168	20	S145G1468			4.6 FI	117.8 FI											3.8 FI	1.6		2.1

Table 3-6
Concentrations Detected in Soil Gas
MCAS El Toro Soil Gas Survey Technical Memorandum

SC010021500150015001



Department of Toxic Substances Control



Edwin F. Lowry, Director
5796 Corporate Avenue
Cypress, California 90630

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

October 10, 2000

Mr. Dean Gould
BRAC Environmental Coordinator
Marine Corps Air Station El Toro
Base Realignment and Closure
P.O. Box 51718
Irvine, California 92619-1718

SUMMARY REPORT AND INFORMATION SUPPLEMENT, REPAIRS TO VEHICLE
WASH RACK AT BUILDING 655, SOLID WASTE MANAGEMENT UNIT (SWMU) 198,
PETROLEUM CORRECTIVE ACTION PROGRAM, MARINE CORPS AIR STATION
(MCAS) EL TORO

Dear Mr. Gould:

The Department of Toxic Substances Control (DTSC) reviewed the following documents for repairs to the vehicle wash rack at Building 655, also known as SWMU 198:

- Summary Report, dated August 14, 1998 and received by this office on July 19, 2000.
- Information Supplement dated September 1, 2000 and received by this office on September 5, 2000.

The Summary Report presents information pertaining to the repairs to the concrete surface of the vehicle wash rack as recommended in the *Final Resource Conservation and Recovery Act [RCRA] Facility Assessment* (Jacobs Engineering Group, 1993) (RFA). Following review of the Summary Report, DTSC requested additional information regarding additional sampling, volatile organic compound (VOC) analysis and the status of the associated oil/water separator (OWS) 759A, also referenced as SWMU 199 in the RFA. Subsequently, the Department of the Navy forwarded the Information Supplement in response to the request.

The Information Supplement recommends a status of no further action be designated for SWMU 198 based upon the absence of evidence of a significant release of

received
10/10/00

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Mr. Dean Gould
October 10, 2000
Page 2

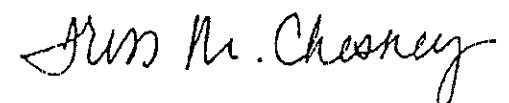
petroleum hydrocarbons and completion of repairs as recommended in the RFA. Also, site assessments are in progress for OWS 759A (SWMU 199) and UST 759B.

Figure 1 in the Information Supplement shows that the wash rack drains are connected to a sanitary sewer that leads to OWS 759A (SWMU 199) and underground storage tank (UST) 759B. The figure also shows that one of the wash rack drains is connected to a storm drain.

During the RFA, nine soil samples were collected from four borings completed to a depth of 5 feet below ground surface. It appears that the RFA borings were not located adjacent to the wash rack drains, sanitary sewer or storm drain. Additionally, VOCs were detected in the samples collected at the wash rack during the RFA and in the bottom of the excavation for OWS 759A (SWMU 199) during removal. As a result, a site assessment needs to be conducted for both the sanitary sewer and storm drain connected to the SWMU 198. Therefore, DTSC does not concur with the recommendation for no further action at SWMU 198. Please submit a work plan (or reference an existing work plan) for conducting an assessment of the sanitary sewer and storm drain associated with SWMU 198.

If you have any questions, please contact me at (714) 484-5395.

Sincerely,



Triss M. Chesney, P.E.
Remedial Project Manager
Southern California Branch
Office of Military Facilities

cc: Mr. Glenn Kistner
Remedial Project Manager
U. S. Environmental Protection Agency Region IX
Superfund Division (SFD-8-2)
75 Hawthorne Street
San Francisco, California 94105-3901

Mr. Dean Gould
October 10, 2000
Page 3

cc: Mr. John Broderick
Remedial Project Manager
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3339

Mr. Gregory F. Hurley
Restoration Advisory Board Co-chair
620 Newport Center Drive, Suite 450
Newport Beach, California 92660-8019

Ms. Polin Modanlou
MCAS El Toro Local Redevelopment Authority
10 Civic Center Plaza, 2nd Floor
Santa Ana, California 92703

Mr. Steven Sharp
Orange County Health Care Agency
2009 East Edinger Avenue
Santa Ana, California 92705

Ms. Lynn Horneckér
Remedial Project Manager
Naval Facilities Engineering Command
Southwest Division - Code 06CC.LH
1220 Pacific Highway
San Diego, California 92132-5187

APPENDIX B

SOIL BORING LOGS

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
	GRAPH	LETTER			
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
		CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
		SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
		SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		CH	INORGANIC CLAYS OF HIGH PLASTICITY
		SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

FIGURE B-1
SOIL CLASSIFICATION CHART
AND KEY TO BORING LOGS



BORING LOG KEY

 2-inch split spoon soil sample location

 Composite sample interval

NAO No apparent odor

NAS No apparent staining

 Inferred contact

 Well-defined contact

SPT Standard Penetration Test

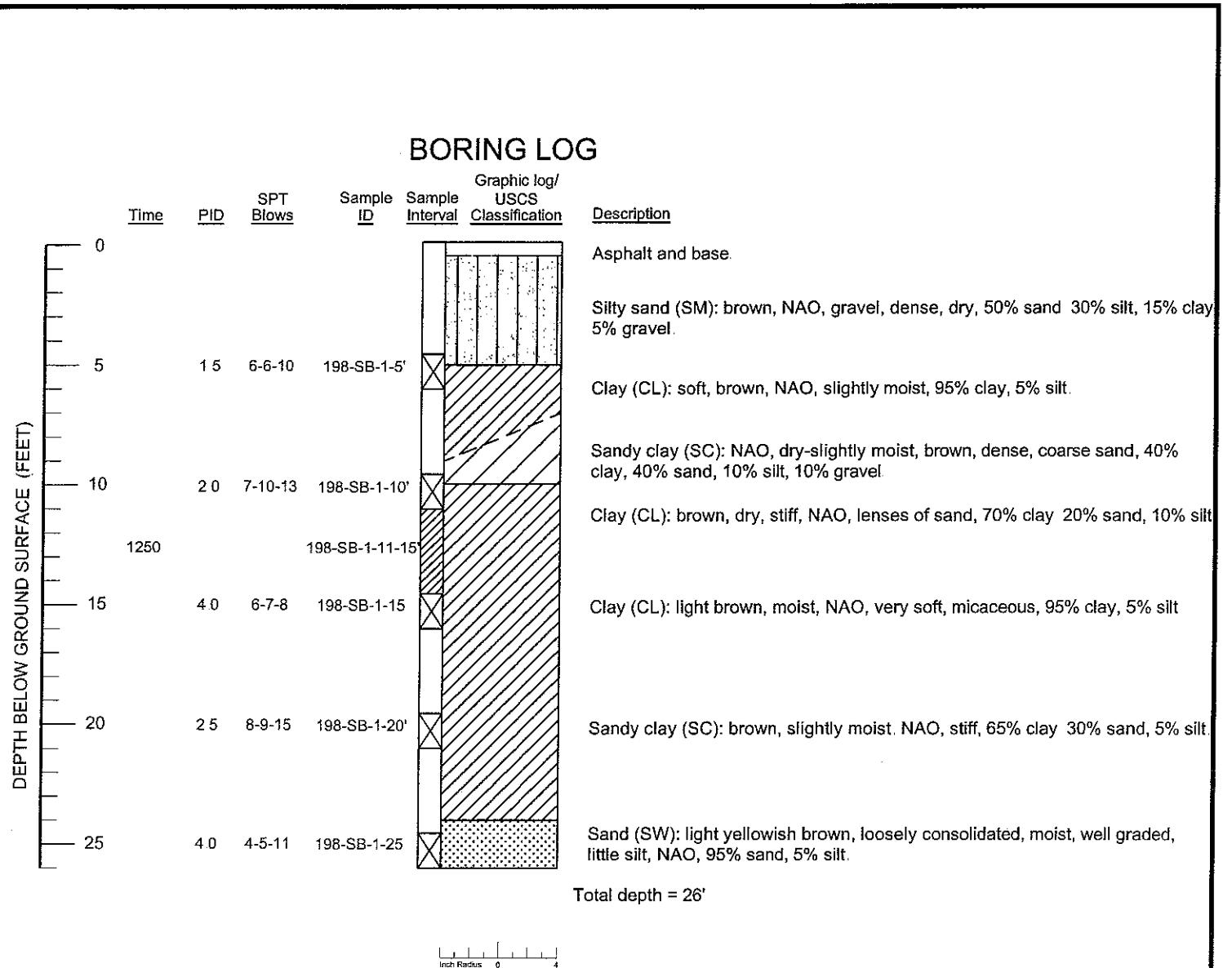
PID Reading in PPMV

 First encountered water table

FIGURE B-1a
SOIL CLASSIFICATION CHART
AND KEY TO BORING LOGS



BORING LOG



Facility:	MCAS - El Toro	Driller:	Reynaldo Vaca	Rig Type:	CME 75
Contractor:	Prosonic Corp	Geologist:	B. Shojaee	Drill Method:	8" HSA
Date Start:	7/14/03	Date Completed:	7/18/03		

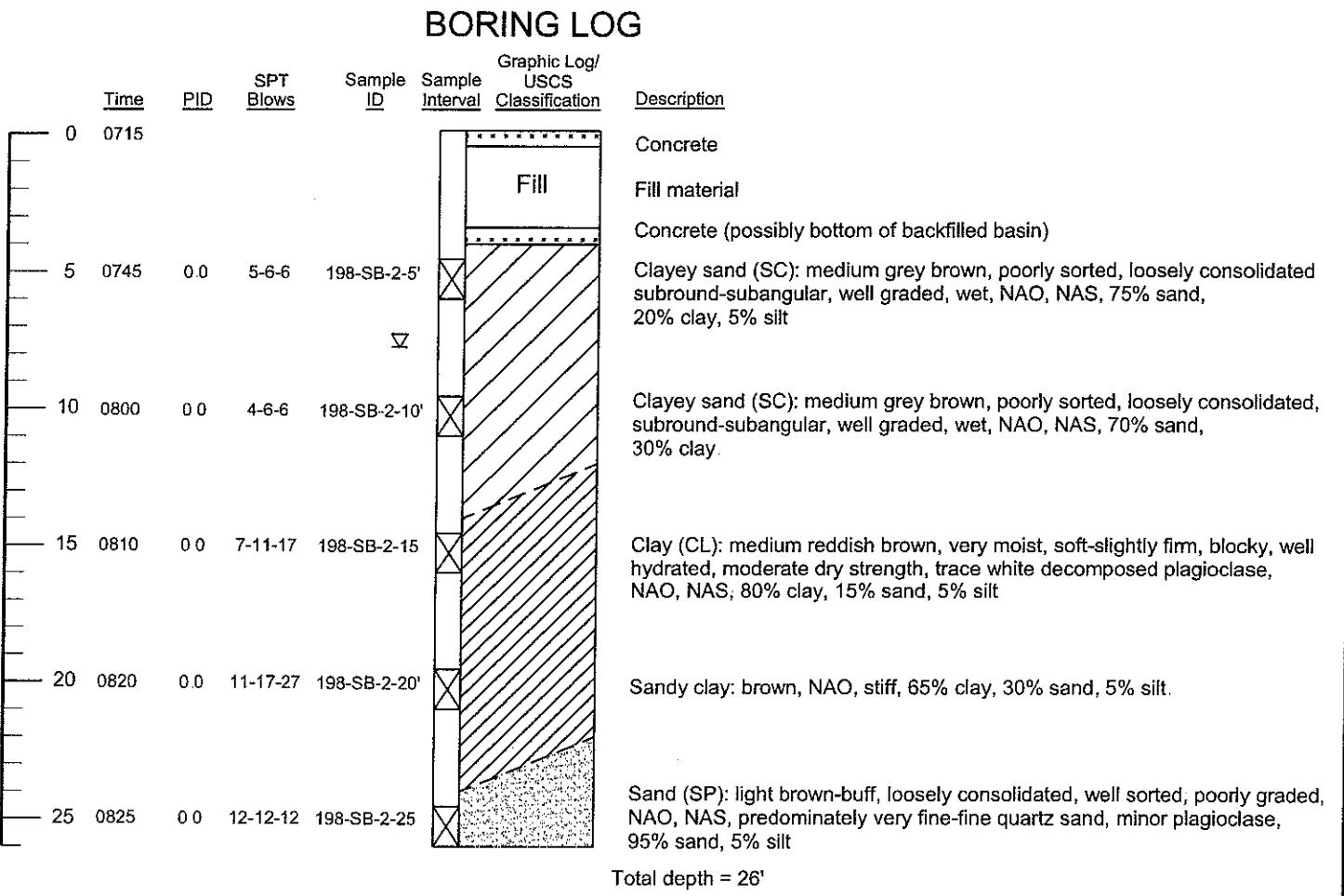
FIGURE B-2
BORING LOG SWMU198-SB-1
MCAS - El Toro
Irvine, California



DRAWN: J. Gierek	DATE: 9/10/03
FILE: Projects\04-4432.10\Boring198_1.dwg	04-4432

BORING LOG

DEPTH BELOW GROUND SURFACE (FEET)



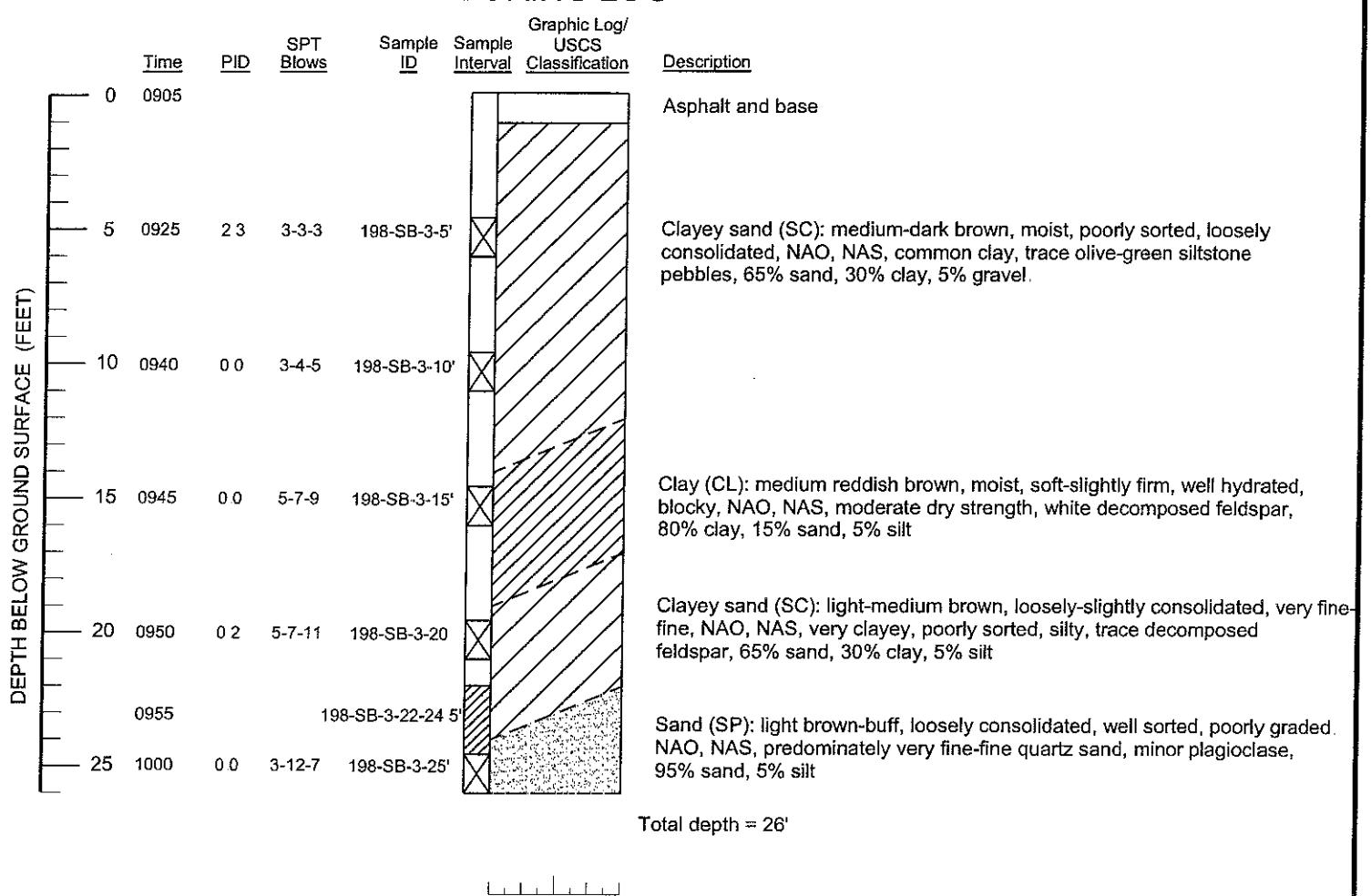
Facility: MCAS - El Toro	Driller: Reynaldo Vaca	Rig Type: CME 75
Contractor: Prosonic Corp.	Geologist: D Marks	Drill Method: 8" HSA
Date Start: 7/15/03	Date Completed: 7/15/03	

FIGURE B-3
BORING LOG SWMU198-SB-2
MCAS - El Toro
Irvine, California



DRAWN: J. Gierek DATE: 9/10/03
FILE: Projects\04-4432.10\Boring198_2.dwg 04-4432

BORING LOG



Facility: MCAS - El Toro	Driller: Reynaldo Vaca	Rig Type: CME 75
Contractor: Prosonic Corp.	Geologist: D Marks	Drill Method: 8" HSA
Date Start: 7/15/03	Date Completed: 7/15/03	

FIGURE B-4
BORING LOG SWMU198-SB-3
MCAS - El Toro
Irvine, California



DRAWN: J. Gierek DATE: 9/10/03
FILE: Projects\04-4432.10\Boring198_3.dwg 04-4432

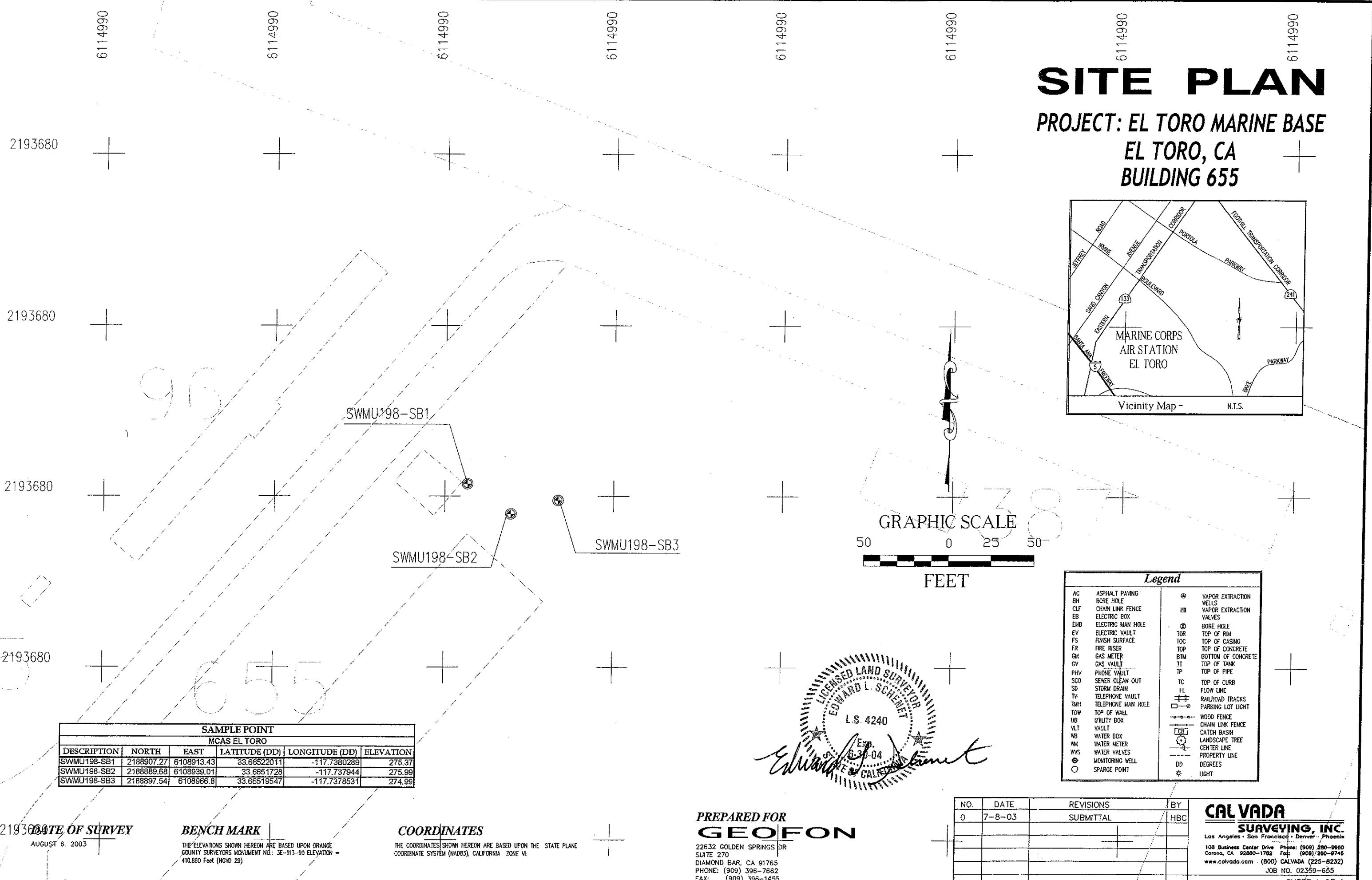
APPENDIX C

SOIL BORINGS SURVEY DATA AND MAP

SAMPLE POINT					
	MCAS EL TORO				
DESCRIPTION	NORTH	EAST	LATITUDE (DD)	LONGITUDE (DD)	ELEVATION
SWMU198-SB1	2188907.27	6108913.43	33.6652201	-117.7380289	275.37
SWMU198-SB2	2188889.68	6108939.01	33.6651728	-117.7379440	275.99
SWMU198-SB3	2188897.54	6108966.80	33.6651955	-117.7378331	274.99

SITE PLAN

PROJECT: EL TORO MARINE BASE
EL TORO, CA
BUILDING 655



APPENDIX D

LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORDS

Volatile Organic Analysis (EPA Method 8260)

COC Number	Result	Units	PQL	Min	Method	Prep Date	Run Date	Run Time	Instrument	Run ID	QC	MS-Batch ID	MS-Bits	Lab Quals
Project Number	...													
Sampling Location	MCAS EL TORO													
Sampling Point	SWMV198-SB-1-5'													
Sampled By	LEO W. WILLIAMSON													
Constituent	Result	Units	PQL	Min	Method	Prep Date	Run Date	Run Time	Instrument	Run ID	QC	MS-Batch ID	MS-Bits	Lab Quals
Benzene	0.00051	mg/kg	0.01	0.00039	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	R01	
Bromodichloromethane	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Bromoform	None Detected	mg/kg	0.05	0.00040	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Bromomethane	None Detected	mg/kg	0.03	0.00062	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00051	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Chlorobenzene	None Detected	mg/kg	0.01	0.00051	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Chloroethane	None Detected	mg/kg	0.03	0.0011	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Chloroform	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Chloromethane	None Detected	mg/kg	0.03	0.00055	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Dibromochloromethane	None Detected	mg/kg	0.01	0.00059	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00045	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
1,1-Dichloropropane	None Detected	mg/kg	0.01	0.00056	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00039	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Ethybenzene	None Detected	mg/kg	0.01	0.00049	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Methylene chloride	0.011	mg/kg	0.05	0.00089	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Styrene	None Detected	mg/kg	0.01	0.00045	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	R01	
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00065	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		
Tetrachloroethene	0.044	mg/kg	0.01	0.00068	8260	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND		

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SW/MV198-SB-1-5', 07/14/2003 @ 12:40 LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Analyst	Instrument ID	Dilution	QC	Batch ID	MB Bias	Lab Quals
Toluene	None Detected	mg/kg	0.01	0.00068	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00058	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00053	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	
Trichloroethene	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	
Vinyl chloride	None Detected	mg/kg	0.03	0.00050	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	
Total Xylenes	None Detected	mg/kg	0.01	0.00117	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	
Acetone	0.05	mg/kg	0.03	0.0047	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400	ND	
t-Anyl Methyl ether	None Detected	mg/kg	0.003	0.00056	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	R11
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0064	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	
Carbon disulfide	None Detected	mg/kg	0.05	0.00025	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	
Diisopropyl ether	None Detected	mg/kg	0.003	0.00017	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.000038	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	
2-Hexanone	None Detected	mg/kg	0.05	0.0017	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	
Methyl ethyl ketone	0.0053	mg/kg	0.006	0.0011	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	V11
Methyl Isobutyl ketone	None Detected	mg/kg	0.006	0.00066	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	R11
Vinyl acetate	None Detected	mg/kg	0.006	0.00075	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	316-100353	ND	R11
Surrogate Compounds	Result	Units	Certified Limits	Method	Prep Date	Run Date	Analyst	Instrument ID	Dilution	QC	Batch ID	MB Bias	Lab Quals	
1,2-Dichloroethane-d4	101	%	70-121	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400			
Toluene-d8	96	%	81-117	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400			
4-Bromo Fluorobenzene	83	%	74-121	8260	07/21/03	07/21/03	04:23	JJH2	MS-V3	0.52	315-100400			

Flag Explanations

R01 The sample result is between the MDL and PQL.

R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.

V11 The Continuing Calibration Verification (CCV) recovery is not within established control limits.

Comments

Prepared by EPA Method 5035.

California DOHS Certification #11186

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03-06494-1



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	Receive Date/Time									
	Sampling Location	Sample Depth	Sample Matrix	BCL Sample ID	Run Date	Run Time	Instrument	QC	Min Bias	Lab Quats
Project Number	---			03-06494-2						
Sampling Point	SWMV/198-SB-1-10'									
Sampled By	LEO W. WILLIAMSON									
Constituent	Result	Units	POD	MDL	Method	Prep Date	Run Date	Time	Analyte	Method ID
Benzene	0.00047	mg/kg	0.01	0.00041	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Bromodichloromethane	None Detected	mg/kg	0.01	0.00042	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Bromoform	None Detected	mg/kg	0.05	0.00041	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Bromomethane	None Detected	mg/kg	0.03	0.00064	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00083	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Chlorobenzene	None Detected	mg/kg	0.01	0.00053	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Chloroethane	None Detected	mg/kg	0.03	0.00112	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Chloroform	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Chloromethane	None Detected	mg/kg	0.03	0.00057	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Dibromochloromethane	None Detected	mg/kg	0.01	0.00052	8260	07/21/03	04:51	JJH2	MS-V3	0.54
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	04:51	JJH2	MS-V3	0.54
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00037	8260	07/21/03	04:51	JJH2	MS-V3	0.54
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00058	8260	07/21/03	04:51	JJH2	MS-V3	0.54
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00056	8260	07/21/03	04:51	JJH2	MS-V3	0.54
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00041	8260	07/21/03	04:51	JJH2	MS-V3	0.54
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00049	8260	07/21/03	04:51	JJH2	MS-V3	0.54
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00042	8260	07/21/03	04:51	JJH2	MS-V3	0.54
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00041	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Ethybenzene	None Detected	mg/kg	0.01	0.00051	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Methylene chloride	None Detected	mg/kg	0.05	0.00071	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Styrene	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	04:51	JJH2	MS-V3	0.54
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00067	8260	07/21/03	04:51	JJH2	MS-V3	0.54
Tetrachloroethene	0.0015	mg/kg	0.01	0.00071	8260	07/21/03	04:51	JJH2	MS-V3	0.54

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03-06494-2

Volatile Organic Analysis (EPA Method 8260)

Sample Description		MCAS EL TORO, SW/MV198-SB-1-10', 07/14/2003 @ 12:50, LEO W. WILLIAMSON												
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	MB Bias	Lab Quals
Toluene	None Detected	mg/kg	0.01	0.00070	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400	ND	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00060	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400	ND	
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400	ND	
Trichloroethylene	None Detected	mg/kg	0.01	0.00050	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400	ND	
Vinyl chloride	None Detected	mg/kg	0.03	0.00052	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400	ND	
Total Xylenes	None Detected	mg/kg	0.01	0.0017	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400	ND	
Acetone	0.038	mg/kg	0.03	0.0049	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400	ND	
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00058	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
t-Butyl alcohol	0.02	mg/kg	0.2	0.0067	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
Carbon disulfide	None Detected	mg/kg	0.05	0.00026	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
Diisopropyl ether	None Detected	mg/kg	0.003	0.00017	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.000039	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
2-Hexanone	None Detected	mg/kg	0.05	0.0018	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
Methyl ethyl ketone	None Detected	mg/kg	0.006	0.0011	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
Methyl isobutyl ketone	None Detected	mg/kg	0.006	0.00069	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400	ND	
Vinyl acetate	None Detected	mg/kg	0.006	0.00078	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	316-100353	ND	
Surrogate Compounds		Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	MB Bias	Lab Quals
1,2-Dichloroethane-d4	100	%	70-121	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400			
Toluene-d8	101	%	81-117	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400			
4-Bromo fluorobenzene	97	%	74-121	8260	07/21/03	07/21/03	04:51	JJH2	MS-V3	0.54	315-100400			

Flag Explanations

R01 The sample result is between the MDL and PQL.

R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.

V11 The Continuing Calibration Verification (CCV) recovery is not within established control limits.

Comments Prepared by EPA Method 5035.

California DOHS Certification #11186

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03-06494-2



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Time	Analyte	Run	Instru-	Batch ID	Run ID	QC	MB	Lab	Quals
Benzene	0.00061	mg/kg	0.01	0.00046	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	R01			
Bromodichloromethane	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Bromoform	None Detected	mg/kg	0.05	0.00047	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Bromomethane	None Detected	mg/kg	0.03	0.00074	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00061	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Chlorobenzene	None Detected	mg/kg	0.01	0.00061	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Chloroethane	None Detected	mg/kg	0.03	0.0013	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Chloroform	None Detected	mg/kg	0.01	0.00046	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Chloromethane	None Detected	mg/kg	0.03	0.00066	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Dibromoethromethane	None Detected	mg/kg	0.01	0.00071	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00053	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00043	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00066	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00064	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00057	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Ethylbenzene	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Methylene chloride	0.0042	mg/kg	0.05	0.00082	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Styrene	None Detected	mg/kg	0.01	0.00053	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	R01			
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00077	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND				
Tetrachloroethene	0.0020	mg/kg	0.01	0.00081	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	R01			

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03-06494-3

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Volatile Organic Analysis (EPA Method 8260)

Sample Description		MCAS EL TORO, SW/MV198-SB-1-15', 07/14/2003 @ 13:00, LEO W. WILLIAMSON												
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	MB Bias	Lab Quals
Toluene	None Detected	mg/kg	0.01	0.00080	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00069	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00063	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	
Trichloroethene	None Detected	mg/kg	0.01	0.00057	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	
Vinyl chloride	None Detected	mg/kg	0.03	0.00059	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	
Total Xylenes	None Detected	mg/kg	0.01	0.0020	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	
Acetone	None Detected	mg/kg	0.04	0.0056	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400	ND	
t-Amyl Methyl ether	None Detected	mg/kg	0.004	0.00067	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0077	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
Carbon disulfide	None Detected	mg/kg	0.05	0.00029	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
Diisopropyl ether	None Detected	mg/kg	0.004	0.00020	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
Ethyl t-butyl ether	None Detected	mg/kg	0.004	0.00045	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
2-Hexanone	None Detected	mg/kg	0.05	0.0020	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
Methyl ethyl ketone	None Detected	mg/kg	0.007	0.0013	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
Methyl isobutyl ketone	None Detected	mg/kg	0.007	0.0079	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00045	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
Vinyl acetate	None Detected	mg/kg	0.007	0.00089	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	316-100353	ND	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	MB Bias	Lab Quals	
1,2-Dichloroethane-d4	75	%	70-121	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400			
Toluene-d8	98	%	81-117	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400			
4-Bromo fluorobenzene	97	%	74-121	8260	07/21/03	07/21/03	05:19	JJH2	MS-V3	0.62	315-100400			

Flag Explanations

R01	The sample result is between the MDL and PQL.
R11	Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
Comments	
Prepared by EPA Method 5035.	

California DOHS Certification #11186

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03-06404-3

Volatile Organic Analysis (EPA Method 8260)

COC Number	---	Receive Date/Time	07/15/2003 @ 15:50
Project Number	---	Sampling Date/Time	07/14/2003 @ 13:10
Sampling Location	MCAS EL TORO	Sample Depth	---
Sampling Point	SWMV198-SB-1-20'	Sample Matrix	Soil
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06494-4
Constituent	Result	Units	Method
		ppb	Method
Benzene	0.00042	mg/kg	0.01
Bromodichloromethane	None Detected	mg/kg	0.01
Bromoform	None Detected	mg/kg	0.05
Bromomethane	None Detected	mg/kg	0.03
Carbon tetrachloride	None Detected	mg/kg	0.01
Chlorobenzene	None Detected	mg/kg	0.01
Chloroethane	None Detected	mg/kg	0.03
Chloroform	None Detected	mg/kg	0.01
Chloromethane	None Detected	mg/kg	0.03
Dibromochloromethane	None Detected	mg/kg	0.01
1,1-Dichloroethane	None Detected	mg/kg	0.01
1,2-Dichloroethane	None Detected	mg/kg	0.01
1,1-Dichloroethene	None Detected	mg/kg	0.01
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01
1,2-Dichloropropane	None Detected	mg/kg	0.01
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01
Ethylbenzene	None Detected	mg/kg	0.01
Methylene chloride	0.0038	mg/kg	0.05
Styrene	None Detected	mg/kg	0.01
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01
Tetrachloroethene	0.00081	mg/kg	0.01

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03-06494-4

Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EIL TORO, SWMV198-SB-1-20', 07/14/2003 @ 13:10, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru- ment ID	Dilution	QC Batch ID	MB Runs	Lab Quals
Toluene	None Detected	mg/kg	0.01	0.00070	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400	ND	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00060	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400	ND	
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400	ND	
Trichloroethene	None Detected	mg/kg	0.01	0.00050	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400	ND	
Vinyl chloride	None Detected	mg/kg	0.03	0.00052	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400	ND	
Total Xylenes	None Detected	mg/kg	0.01	0.0017	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400	ND	
Acetone	0.02	mg/kg	0.03	0.0049	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400	ND	
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00058	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0057	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
Carbon disulfide	None Detected	mg/kg	0.05	0.00026	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
Diisopropyl ether	None Detected	mg/kg	0.003	0.00017	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00039	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
2-Hexanone	None Detected	mg/kg	0.05	0.0018	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
Methyl ethyl ketone	None Detected	mg/kg	0.006	0.0011	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
Methyl Isobutyl ketone	None Detected	mg/kg	0.006	0.00069	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400	ND	
Vinyl acetate	None Detected	mg/kg	0.006	0.00078	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	316-100353	ND	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru- ment ID	Dilution	QC Batch ID	MB Runs	Lab Quals	
1,2-Dichloroethane-d4	103	%	70-121	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400			
Toluene-d8	98	%	81-117	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400			
4-Bromofluorobenzene	96	%	74-121	8260	07/21/03	07/21/03	05:47	JJH2	MS-V3	0.54	315-1004400			

Flag Explanations

- R01 The sample result is between the MDL and PQL.
- R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.
- V11 The Continuing Calibration Verification (CCV) recovery is not within established control limits.

Comments

Prepared by EPA Method 5035.

California DOHS Certification #1186

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03-06494-4

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 DIAMOND BAR, CA 91765
 Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	--	Receive Date/Time	07/15/2003 @ 15:50												
Project Number	--	Sampling Date/Time	07/14/2003 @ 13:20												
Sampling Location	MCAS EL TORO	Sample Depth	--												
Sampling Point	SWMV198-SB-1-25'	Sample Matrix	Soil												
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06494-5												
Constituent	Result	Units	Eq.	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Batch ID	QC	MB	Lab Bias	Lab Quarts
Benzene	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Bromodichloromethane	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Bromoform	None Detected	mg/kg	0.05	0.00048	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Bromomethane	None Detected	mg/kg	0.03	0.00075	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00062	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Chlorobenzene	None Detected	mg/kg	0.01	0.00062	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Chloroethane	None Detected	mg/kg	0.03	0.0013	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Chloroform	None Detected	mg/kg	0.01	0.00046	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Chloromethane	None Detected	mg/kg	0.03	0.00067	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Dibromochloromethane	None Detected	mg/kg	0.01	0.00072	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00044	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
1,1-Dichloroethylene	None Detected	mg/kg	0.01	0.00067	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00065	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00057	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00049	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Ethylbenzene	None Detected	mg/kg	0.01	0.00059	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Methylene chloride	0.0032	mg/kg	0.05	0.00083	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND	R01	
Styrene	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00079	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Tetrachloroethene	None Detected	mg/kg	0.01	0.00082	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		

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03-06494-5

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SWMV198-SB-1-25', 07/14/2003 @ 13:20, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Batch ID	QC	MB	MB Bias	Lab Quals
Toluene	None Detected	mg/kg	0.01	0.00082	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00070	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00064	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Trichloroethene	None Detected	mg/kg	0.01	0.00058	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Vinyl chloride	None Detected	mg/kg	0.03	0.00060	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Total Xylenes	None Detected	mg/kg	0.01	0.0020	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
Acetone	0.0091	mg/kg	0.04	0.0057	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400	ND		
t-Amyl Methyl ether	None Detected	mg/kg	0.004	0.000868	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND	R11,R01	
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0078	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND		
Carbon disulfide	None Detected	mg/kg	0.05	0.00030	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND		
Diisopropyl ether	None Detected	mg/kg	0.004	0.00020	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND	V11	
Ethyl t-butyl ether	None Detected	mg/kg	0.004	0.00046	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND		
2-Hexanone	None Detected	mg/kg	0.05	0.0020	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND		
Methyl ethyl ketone	None Detected	mg/kg	0.007	0.0013	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND		
Methyl isobutyl ketone	None Detected	mg/kg	0.007	0.00080	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND	R11	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00046	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND	R11	
Vinyl acetate	None Detected	mg/kg	0.007	0.00091	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	316-100353	ND	R11	
<hr/>															
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Batch ID	QC	MB	MB Bias	Lab Quals	
1,2-Dichloroethane-d4	89	%	70-121	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400				
Toluene-d8	97	%	81-117	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400				
4-Bromofluorobenzene	95	%	74-121	8260	07/21/03	07/21/03	06:15	JJH2	MS-V3	0.63	315-100400				

Flag Explanations

- R01 The sample result is between the MDL and PQL.
- R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.
- V11 The Continuing Calibration Verification (CCV) recovery is not within established control limits.

Comments

Prepared by EPA Method 5035.

California DOHS Certification #1186

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03-06494-5



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---			Receive Date/Time								
Project Number	---			Sampling Date/Time								
Sampling Location	MCAS EL TORO											
Sampling Point	SWMV198-SB-1-5'											
Sampled By	LEO W. WILLIAMSON											
Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Method ID	Diln
Gasoline Range Organics	None Detected	mg/kg	0.5	0.023	8015M	07/23/03	07/23/03	16:12	TLF	GC-V8	0.	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Method ID	Diln	
a,a-Trifluorotoluene (80:15 Surrogate)	84	%	70-130	8015M	07/23/03	07/23/03	16:12	TLF	GC-V8	0.		

Comments

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22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Receive Date/Time									
Project Number	---	Sampling Date/Time									
Sampling Location	MCAS EL TORO	Sample Depth									
Sampling Point	SWMV198-SB-1-10'	Sample Matrix									
Sampled By	LEO W. WILLIAMSON	BCL Sample ID									
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Instrument	Instrument ID	Diln
Gasoline Range Organics	0.030	mg/kg	0.6	0.025	8015M	07/23/03	07/23/03	16:41	TLF	GC-V8	0.1
Surrogate Compounds	Result	Units	Control Units	Method	Prep Date	Run Date	Run Time	Instrument	Instrument ID	Diln	
a,a-Trifluorotoluene (8015 Surrogate)	99	%	70-130	8015M	07/23/03	07/23/03	16:41	TLF	GC-V8	0.5	

Flag	Explanations
R01	The sample result is between the MDL and PQL.
Comments	
Prepared by	EPA Method 5035.

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DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---				Receive Date/Time					
Project Number	---				Sampling Date/Time					
Sampling Location	MCAS EL TORO				Sample Depth					
Sampling Point	SWMV198-SB-1-15				Sample Matrix					
Sampled By	LEO W. WILLIAMSON				BCL Sample ID					
Constituent	Result	Units	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dil.
Gasoline Range Organics	None Detected	mg/kg	0.6	0.027	8015M	07/23/03	17:10	TLF	GC-V8	0.
Surrogate Compounds	Result	Units	Contra. Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dil.
a,a'-Trifluorotoluene (8015 Surrogate)	95	%	70-130	8015M	07/23/03	07/23/03	17:10	TLF	GC-V8	0.

Comments

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22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	Project Number	Sampling Location	Sampling Point	Sampled By	Receive Date/Time	Sampling Date/Time	Sample Depth	Sample Matrix	BCL Sample ID
---	---	MCAS EL TORO	SWMV198-SB-1-20'	LEO W. WILLIAMSON					
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Instrument ID
Gasoline Range Organics	None Detected	mg/kg	0.5	0.023	8015M	07/23/03	07/23/03	17:39	TLF
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Instrument ID	
a,a-Trifluorotoluene (8015 Surrogate)	77	%	70-130	8015M	07/23/03	07/23/03	17:39	TLF	GC-V8

Comments

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DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Receive Date/Time	Sampling Date/Time
Project Number	---	Sample Depth	Sample Matrix
Sampling Location	MCAS EL TORO	BCL Sample ID	
Sampling Point	SWMV198-SB-1-25'		
Sampled By	LEO W. WILLIAMSON		

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Dilu-
Gasoline Range Organics	None Detected	mg/kg	0.7	0.031	8015M	07/23/03	07/23/03	18:07	TLF	GC-V8	0.	

Surrogate Compounds	Result	Units	Conc. Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Dilu-
a,a-Trifluorotoluene (8015 Surrogate)	97	%	70-130	8015M	07/23/03	07/23/03	18:07	TLF	GC-V8	0.	

Comments

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22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method)

COC Number	Project Number	Sampling Location	Sampling Point	Sampled By	Receive Date/Time	Sampling Date/Time	Sample Depth	Sample Matrix	BCL Sample ID
—	—	—	—	—	—	—	—	—	—
—	—	MCAS EL TORO	SWMV198-SB-1-5'	—	—	—	—	—	—
—	—	—	—	LEO W. WILLIAMSON	—	—	—	—	—
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Instru-ment ID
Diesel Range Organics (C12 - C24)	5.1	mg/kg	10.	3.	8015M	07/18/03	07/22/03	07:28	JST
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID
Tetraacosane	91	%	45-137	8015M	07/18/03	07/22/03	07:28	JST	GC-12A

Flag	Explanations
A52	Chromatogram not typical of diesel.
R01	The sample result is between the MDL and PQL.

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DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Meth)

COC Number	---	Receive Date/Time	---								
Project Number	--	Sampling Date/Time	---								
Sampling Location	MCAS EL TORO	Sample Depth	---								
Sampling Point	SWMV198-SB-1-10'	Sample Matrix	---								
Sampled By	LEO W. WILLIAMSON	BCI Sample ID	---								
Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	DR
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	.3.	8015M	07/18/03	07/22/03	07:53	JST	GC-12A	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	DR	
Tetraacosane	82	%	45-137	8015M	07/18/03	07/22/03	07:53	JST	GC-12A		

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DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method)

COC Number	---				Receive Date/Time			
Project Number	--				Sampling Date/Time			
Sampling Location	MCAS EL TORO				Sample Depth			
Sampling Point	SWMV198-SB-1-15				Sample Matrix			
Sampled By	LEO W. WILLIAMSON							
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/18/03	07/22/03	08:18
							JST	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Instru- ment ID
Tetracosane	82	%	46-137	8015M	07/18/03	07/22/03	08:18	JST
								GC-12A

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DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method)

COC Number	---	Receive Date/Time
Project Number	--	Sampling Date/Time
Sampling Location	MCAS EL TORO	Sample Depth
Sampling Point	SWMV198-SB-1-20'	Sample Matrix
Sampled By	LEO W. WILLIAMSON	BCL Sample ID

Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Run Time	Instrument	Instrument ID
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/18/03	07/22/03	08:43	JST	GC-12A

Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Instrument	Instrument ID	Run ID
Tetracosane	86	%	45-137	8015M	07/18/03	07/22/03	08:43	JST	GC-12A	

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GEOFON
 22632 GOLDEN SPRINGS DRIVE, SUITE 270
 DIAMOND BAR, CA 91765
 Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method)

COC Number	---	Receive Date/Time										
Project Number	---	Sampling Date/Time										
Sampling Location	MCAS EL TORO	Sample Depth										
Sampling Point	SWMV198-SB-1-25	Sample Matrix										
Sampled By	LEO W. WILLIAMSON											
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrum.	Instrument ID	Blng
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/18/03	07/22/03	08:08	JST	GC-12A		
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrum.	Instrument ID	DHq	
Tetracosane	83	%	45-137	8015M	07/18/03	07/22/03	09:08	JST	GC-12A			

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GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	---			Receive Date/Time	07/15/2003 @ 15:50											
Project Number	---			Sampling Date/Time	07/14/2003 @ 12:40											
Sampling Location	MCAS EL TORO			Sample Depth	---											
Sampling Point	SWMV198-SB-1-5'			Sample Matrix	Soil											
Sampled By	LEO W. WILLIAMSON			BCL Sample ID	03-06494-1SPLP											
Constituent	Result	Units	POL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrumen-	QC	Min.	Max.	Lab.	Batch	Qual.
Benzene	None Detected	mg/L	0.00050	0.000035	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Bromodichloromethane	None Detected	mg/L	0.00050	0.000087	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Bromoform	None Detected	mg/L	0.00050	0.000113	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Bromomethane	None Detected	mg/L	0.0010	0.000037	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Carbon tetrachloride	None Detected	mg/L	0.00050	0.000057	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Chlorobenzene	None Detected	mg/L	0.00050	0.000049	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Chloroethane	None Detected	mg/L	0.00050	0.000111	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Chloroform	None Detected	mg/L	0.00050	0.000048	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Chloromethane	None Detected	mg/L	0.00050	0.000056	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Dibromochloromethane	None Detected	mg/L	0.00050	0.00012	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
1,1-Dichloroethane	None Detected	mg/L	0.00050	0.000061	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
1,2-Dichloroethane	None Detected	mg/L	0.00050	0.00012	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
1,1-Dichloroethene	None Detected	mg/L	0.00050	0.000054	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
cis-1,2-Dichloroethene	None Detected	mg/L	0.00050	0.000070	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
trans-1,2-Dichloroethene	None Detected	mg/L	0.00050	0.000083	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
1,2-Dichloropropane	None Detected	mg/L	0.00050	0.00013	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
cis-1,3-Dichloropropene	None Detected	mg/L	0.00050	0.00012	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
trans-1,3-Dichloropropene	None Detected	mg/L	0.00050	0.00011	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Ethylbenzene	None Detected	mg/L	0.00050	0.000030	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Methylene chloride	0.00031	mg/L	0.0010	0.00012	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Styrene	None Detected	mg/L	0.00050	0.000068	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND	R01		
1,1,2,2-Tetrachloroethane	None Detected	mg/L	0.00050	0.000078	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Tetrachloroethene	0.00011	mg/L	0.00050	0.000049	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND	R01		

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03-06494-1SPID

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SWMV/198-SB-1-5', 07/14/2003 @ 12:40, LEO W. WILLIAMSON

Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Run Time	Analysis	Instrument ID	Dilution	QC	MS	Bias	L-16	Quals
Toluene	None Detected	mg/L	0.000050	0.000042	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
1,1,1-Trichloroethane	None Detected	mg/L	0.000050	0.000072	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
1,1,2-Trichloroethane	None Detected	mg/L	0.000050	0.00013	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Trichloroethylene	None Detected	mg/L	0.000050	0.000092	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Vinyl chloride	None Detected	mg/L	0.000050	0.000092	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Total Xylenes	None Detected	mg/L	0.0010	0.00014	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Acetone	0.012	mg/L	0.020	0.0019	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
t-Amyl Methyl Ether	None Detected	mg/L	0.0010	0.00011	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND	R01		
t-Butyl alcohol	None Detected	mg/L	0.012	0.0030	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND			
Carbon disulfide	None Detected	mg/L	0.0010	0.00028	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND			
Diisopropyl ether	None Detected	mg/L	0.0010	0.00024	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND			
Ethyl t-butyl ether	None Detected	mg/L	0.0010	0.000073	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND			
2-Hexanone	None Detected	mg/L	0.020	0.0011	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND			
Methyl ethyl ketone	0.0045	mg/L	0.020	0.0011	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND			
Methyl isobutyl ketone	None Detected	mg/L	0.020	0.00059	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND			
Methyl t-butyl ether	None Detected	mg/L	0.00050	0.000054	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590	ND			
Vinyl acetate	None Detected	mg/L	0.020	0.0018	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	318-100595	ND			
Surrogate Compounds		Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analysis	Instrument ID	Dilution	QC	MS	Bias	L-16	Quals
1,2-Dichloroethane-d4	103	%	76-114	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590					
Toluene-d8	98	%	88-110	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590					
4-Bromofluorobenzene	97	%	86-115	8260	07/27/03	07/29/03	02:56	MGC	MS-V5	1	317-100590					
Tentatively Identified Compounds		Result	Units	Method	Prep Date	Run Date	Run Time	Analysis	Instrument ID	Dilution	QC	MS	V-5	1		
Tetrahydrofuran	0.0098	mg/l	8260	07/29/03	07/29/03	02:56	MGC	MS-V5	1							

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03-06494-1.SPD.P

Volatile Organic Analysis (EPA Method 8260)

COC Number	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Method ID	Instrum.	QC	MR	Lab.	Batch ID	Bias	Lab.	Quals
Project Number	---																	
Sampling Location	---																	
Sampling Point	MCAS EL TORO																	
Sampled By	SWMV198-SB-1-25'																	
	LEO W. WILLIAMSON																	
Constituent																		
Benzene	None Detected	mg/L	0.000050	0.000035	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Bromodichloromethane	None Detected	mg/L	0.000050	0.000087	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Bromoform	None Detected	mg/L	0.000050	0.00013	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Bromomethane	None Detected	mg/L	0.0010	0.00037	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Carbon tetrachloride	None Detected	mg/L	0.000050	0.000057	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Chlorobenzene	None Detected	mg/L	0.000050	0.000049	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Chloroethane	None Detected	mg/L	0.000050	0.00011	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Chloroform	None Detected	mg/L	0.000050	0.000048	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Chromomethane	None Detected	mg/L	0.000050	0.000056	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Dibromochloromethane	None Detected	mg/L	0.000050	0.00012	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
1,1-Dichloroethane	None Detected	mg/L	0.000050	0.000061	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
1,2-Dichloroethane	None Detected	mg/L	0.000050	0.00012	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
1,1-Dichloroethene	None Detected	mg/L	0.000050	0.000054	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
cis-1,2-Dichloroethene	None Detected	mg/L	0.000050	0.000070	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
trans-1,2-Dichloroethene	None Detected	mg/L	0.000050	0.000083	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
1,2-Dichloropropane	None Detected	mg/L	0.000050	0.00013	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
cis-1,3-Dichloropropene	None Detected	mg/L	0.000050	0.00012	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
trans-1,3-Dichloropropene	None Detected	mg/L	0.000050	0.00011	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Ethylbenzene	None Detected	mg/L	0.000050	0.000030	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Methylene chloride	0.00033	mg/L	0.0010	0.00012	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND	R01				
Styrene	None Detected	mg/L	0.00050	0.000068	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
1,1,2,2-Tetrachloroethane	None Detected	mg/L	0.00050	0.000078	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					
Tetrachloroethene	None Detected	mg/L	0.00050	0.000049	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	ND					

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03-06494-5SPLP



Volatile Organic Analysis (EPA Method 8260)

MCAS EL TORO, SWMV198-SB-1-25', 07/14/2003 @ 13:20, LEO W. WILLIAMSON												
Sample Description	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Instrument ID	QC	MB Bias	Lab Quarts
Constituent												
Toluene	None Detected	mg/L	0.000050	0.000042	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590
1,1,1-Trichloroethane	None Detected	mg/L	0.000050	0.000072	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590
1,1,2-Trichloroethane	None Detected	mg/L	0.000050	0.00013	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590
Trichloroethylene	None Detected	mg/L	0.000050	0.000092	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590
Vinyl chloride	None Detected	mg/L	0.000050	0.000032	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590
Total Xylenes	None Detected	mg/L	0.0010	0.00014	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590
Acetone	0.012	mg/L	0.020	0.0019	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
t-Amyl Methyl ether	None Detected	mg/L	0.0010	0.00011	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
t-Butyl alcohol	None Detected	mg/L	0.012	0.0030	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
Carbon disulfide	None Detected	mg/L	0.0010	0.00028	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
Diisopropyl ether	None Detected	mg/L	0.0010	0.00024	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
Ethyl t-butyl ether	None Detected	mg/L	0.0010	0.000073	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
2-Hexanone	None Detected	mg/L	0.020	0.0011	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
Methyl ethyl ketone	0.0045	mg/L	0.020	0.0011	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
Methyl isobutyl ketone	None Detected	mg/L	0.020	0.00059	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
Methyl t-butyl ether	None Detected	mg/L	0.00050	0.000054	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590
Vinyl acetate	None Detected	mg/L	0.020	0.0018	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	318-100595
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	ELC	MB Bias
1,2-Dichloroethane-d4	104	%	76-114	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	
Toluene-d8	99	%	88-110	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	
4-Bromofluorobenzene	99	%	86-115	8260	07/27/03	07/29/03	03:31	MGC	MS-V5	1	317-100590	
Tentatively Identified Compounds	Result	Units	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	ELC	MB Bias	
Tetrahydrofuran	0.0092	mg/l	8260	07/29/03	07/29/03	03:31	MGC	MS-V5	1	ND	V11	

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03-06494-5SPLF

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GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Meth)

COC Number	---	Receive Date/Time	---								
Project Number	--	Sampling Date/Time									
Sampling Location	MCAS EL TORO	Sample Depth									
Sampling Point	SWMV198-SB-1-5'	Sample Matrix									
Sampled By	LEO W. WILLIAMSON	BCL Sample ID									
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrum-ent ID	Diln
Diesel Range Organics (C12 - C24)	None Detected	mg/L	2.0	0.66	8015M	07/29/03	07/31/03	23:12	JST	GC-13A	1.
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrum-ent ID	Diln	
Tetacosane	75	%	40-130	8015M	07/29/03	07/31/03	23:12	JST	GC-13A	1.	

Comments

SPLP extract analyzed.

California DOHS Certification #1186

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GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Meth)

COC Number	---	Receive Date/Time	Sampling Date/Time	Sample Depth	Sample Matrix	BCI Sample ID
Project Number	--					
Sampling Location	MCAS EL TORO					
Sampling Point	SWMV198-SB-1-25'					
Sampled By	LEO W. WILLIAMSON					

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Diln
Diesel Range Organics (C12 - C24)	None Detected	mg/L	2.0	0.66	8015M	07/29/03	07/31/03	21:24	JST	GC-13A	1	

Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Diln
Tetacosane	82	%	40-130	8015M	07/29/03	07/31/03	21:24	JST	GC-13A	1	

Comments
SPLP extract analyzed.

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22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---				Receive Date/Time
Project Number	--				Sampling Date/Time
Sampling Location	MCAS EL TORO				Sample Depth
Sampling Point	SWMV198-SB-1-5'				Sample Matrix
Sampled By	LEO W. WILLIAMSON				BCL Sample ID

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Run
Gasoline Range Organics	0.023	mg/L	0.050	0.014	8015M	07/27/03	07/28/03	22:51	RTK	GC-V1	1	

Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Run
a,a,a-Trifluorotoluene (8015 Surrogate)	102	%	70-130	8015M	07/27/03	07/28/03	22:51	RTK	GC-V1	1	

Flag	Explanations
R01	The sample result is between the MDL and PQL.

California DOHS Certification #1186

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GEOFON
 22632 GOLDEN SPRINGS DRIVE, SUITE 270
 DIAMOND BAR, CA 91765
 Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Project Number	---	Receive Date/Time								
Sampling Location	MCAS EL TORO	Sampling Point	SWMV198-SB-1-25'	Sampling Date/Time								
Sampled By	LEO W. WILLIAMSON			Sample Depth								
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru.	Instrument ID	Dilut.
Gasoline Range Organics	0.024	mg/L	0.050	0.014	8015M	07/27/03	07/28/03	23:17	RTK	GC-V1	1	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru.	Instrument ID	Dilut.	
a,a,a-Trifluorotoluene (8015 Surrogate)	102	%	70-130	8015M	07/27/03	07/28/03	23:17	RTK	GC-V1	1		

Flag	Explanations
R01	The sample result is between the MDL and PQL.

California DOHS Certification #41186

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GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	Result	Units	PoI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	MS	Lab Bias	Quals
Benzene	None Detected	mg/kg	0.01	0.00042	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
Bromodichloromethane	None Detected	mg/kg	0.01	0.00041	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
Bromoform	None Detected	mg/kg	0.05	0.00019	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
Bromomethane	None Detected	mg/kg	0.03	0.00093	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00028	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Chlorobenzene	None Detected	mg/kg	0.01	0.00033	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Chloroethane	None Detected	mg/kg	0.03	0.00087	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
Chloroform	None Detected	mg/kg	0.01	0.00032	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
Chloromethane	None Detected	mg/kg	0.03	0.00064	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Dibromochloromethane	None Detected	mg/kg	0.01	0.00037	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00031	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00028	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00041	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00031	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00057	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00029	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00020	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00019	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
Ethylbenzene	None Detected	mg/kg	0.01	0.00035	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Methylene chloride	None Detected	mg/kg	0.05	0.0042	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Styrene	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00033	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Tetrachloroethene	0.0014	mg/kg	0.01	0.00031	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	R01	

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Volatile Organic Analysis (EPA Method 8260)

Sample Description		MCAS EL TORO, SW/MV198-SB-2-5', 07/15/2003 @ 07:45, LEO W. WILLIAMSON													
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	QC	MB	Bias	Flag	Quats
Toluene	0.0010	mg/kg	0.01	0.00046	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	R01, Q02, Q03	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00028	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Trichloroethene	None Detected	mg/kg	0.01	0.00049	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Vinyl chloride	None Detected	mg/kg	0.03	0.0011	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND	Q02, Q03	
Total Xylenes	None Detected	mg/kg	0.01	0.0013	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Acetone	0.017	mg/kg	0.03	0.0014	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
tAmyl Methyl ether	None Detected	mg/kg	0.003	0.00013	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND	R01	
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0035	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND		
Carbon disulfide	None Detected	mg/kg	0.05	0.00017	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND		
Diisopropyl ether	None Detected	mg/kg	0.003	0.000097	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND		
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00017	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND		
2-Hexanone	None Detected	mg/kg	0.05	0.0011	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND		
Methyl ethyl ketone	None Detected	mg/kg	0.006	0.00054	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND		
Methyl Isobutyl Ketone	None Detected	mg/kg	0.006	0.00059	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND	R11	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00046	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND	R11	
Vinyl acetate	None Detected	mg/kg	0.006	0.00075	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372	ND		
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	QC	MB	Bias	Flag	Quats	
1,2-Dichloroethane-d4	116	%	70-121	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	377-100343	ND	R11		
Toluene-d8	102	%	81-117	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372				
4-Bromofluorobenzene	106	%	74-121	8260	07/21/03	07/21/03	17:38	JJH2	MS-V8	0.52	376-100372				

Explanations

- Q02 Matrix spike precision is not within the control limits.
- Q03 Matrix spike recovery is not within the control limits.
- R01 The sample result is between the MDL and PQL.
- R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.

Comments

Prepared by EPA Method 5035.

California DOHS Certification #1186

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02-092520-4



GEOFON

22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number --

Project Number --

Sampling Location MCAS EL TORO

Sampling Point SWMV198-SB-2-10'

Sampled By LEO W. WILLIAMSON

Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Method ID	Instrum.	QC	MB	Bias	Lid	Quals
Benzene	None Detected	mg/kg	0.01	0.00044	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
Bromodichloromethane	None Detected	mg/kg	0.01	0.00044	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
Bromoform	None Detected	mg/kg	0.05	0.00020	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
Bromomethane	None Detected	mg/kg	0.03	0.00099	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00030	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
Chlorobenzene	None Detected	mg/kg	0.01	0.00035	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
Chloroethane	None Detected	mg/kg	0.03	0.00092	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
Chloroform	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
Chloromethane	None Detected	mg/kg	0.03	0.00068	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
Dibromochloromethane	None Detected	mg/kg	0.01	0.00039	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00033	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00029	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00043	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00033	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00060	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00031	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00021	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03		
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00020	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
Ethylbenzene	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
Methylene chloride	None Detected	mg/kg	0.05	0.00079	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
Styrene	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00035	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND			
Tetrachloroethene	0.0015	mg/kg	0.01	0.00033	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	R01		

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03-06562-2

Volatile Organic Analysis (EPA Method 8260)

Sample Description		MCAS EL TORO, SW/MV198-SB-2-10', 07/15/2003 @ 08:00, LEO W. WILLIAMSON													
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Dilution	QC	MB	Bias	Lab Quals
Toluene	0.00091	mg/kg	0.01	0.00049	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	R01, Q02, Q03	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00029	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND		
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND		
Trichloroethene	None Detected	mg/kg	0.01	0.00052	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND		
Vinyl chloride	None Detected	mg/kg	0.03	0.00112	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND	Q02, Q03	
Total Xylenes	None Detected	mg/kg	0.01	0.0014	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND		
Acetone	0.016	mg/kg	0.03	0.0015	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND		
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00014	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND	R11, R01	
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0037	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND		
Carbon disulfide	None Detected	mg/kg	0.05	0.00018	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND		
Diisopropyl ether	None Detected	mg/kg	0.003	0.00011	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND		
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00018	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND		
2-Hexanone	None Detected	mg/kg	0.05	0.0011	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND		
Methyl ethyl ketone	None Detected	mg/kg	0.006	0.00057	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND		
Methyl Isobutyl Ketone	None Detected	mg/kg	0.006	0.00041	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND	R11	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	377-100343	ND	R11	
Vinyl acetate	None Detected	mg/kg	0.006	0.00079	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372	ND		
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Dilution	QC	MB	Bias	Lab Quals	
1,2-Dichloroethane-d4	121	%	70-121	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372				
Toluene-d8	101	%	81-117	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372				
4-Bromofluorobenzene	104	%	74-121	8260	07/21/03	07/21/03	18:08	JJH2	MS-V8	0.55	376-100372				

Flag Explanations

- Q02 Matrix spike precision is not within the control limits.
- Q03 Matrix spike recovery is not within the control limits.
- R01 The sample result is between the MDL and PQL.
- R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.

Comments

Prepared by EPA Method 5035.

California DOHs Certification #1186

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03-06562-2



Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SMMV198-SB-2-15, 07/15/2003 @ 08:10, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru	Method ID	Batch ID	QC	MB	Bras	Lab	Quals
Tetrachloroethene	0.00094	mg/kg	0.01	0.00035	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND	R01			
Toluene	0.0013	mg/kg	0.01	0.00052	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND	R01, Q02, Q03			
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00031	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND				
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND				
Trichloroethene	None Detected	mg/kg	0.01	0.00055	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND				
Vinyl chloride	None Detected	mg/kg	0.03	0.00112	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND	Q02, Q03			
Total Xylenes	None Detected	mg/kg	0.01	0.0014	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND				
Acetone	0.014	mg/kg	0.03	0.0015	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND				
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00015	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND	R11, R01			
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0039	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND				
Carbon disulfide	None Detected	mg/kg	0.05	0.00019	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND				
Diisopropyl ether	None Detected	mg/kg	0.003	0.00011	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND				
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00019	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND				
2-Hexanone	None Detected	mg/kg	0.05	0.0012	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND				
Methyl ethyl ketone	None Detected	mg/kg	0.006	0.00060	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND				
Methyl isobutyl ketone	None Detected	mg/kg	0.006	0.00043	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND	R11			
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00051	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND	R11			
Vinyl acetate	None Detected	mg/kg	0.006	0.00084	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	377-100343	ND	R11			
Surrogate Compounds		Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Method ID	Batch ID	QC	MB	Bras	Lab	Quals
1,2-Dichloroethane-d4	111	%	70-121	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND					
Toluene-d8	102	%	84-117	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND					
4-Bromofluorobenzene	110	%	74-121	8260	07/21/03	07/21/03	18:39	JJH2	MS-V8	0.58	376-100372	ND					

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Laboratories, Inc

Volatile Organic Analysis (EPA Method 8260)

Sample Description

MCAS EL TORO, SWM/SB-2-15, 07/15/2003 @ 08:10, LEO W. WILLIAMSON

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery is not within the control limits.
R01	The sample result is between the MDL and PQL.
R11	Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.
Comments	
Prepared by EPA Method 5035.	

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Volatile Organic Analysis (EPA Method 8260)

Sample Description		MCAS EL TORO, SWMV198-SB-2-20', 07/15/2003 @ 08:20, LEO W. WILLIAMSON												
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quants
Methylene chloride	0.023	mg/kg	0.05	0.00077	8260	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	R01, S09	
Styrene	None Detected	mg/kg	0.01	0.00035	8260	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND		
1,1,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND		
Tetrachloroethene	0.00052	mg/kg	0.01	0.00032	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	
Toluene	0.00078	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	R01, Q02, Q03
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00029	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	3
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	S09
Trichloroethene	None Detected	mg/kg	0.01	0.00051	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	Q02, Q03, S09
Vinyl chloride	None Detected	mg/kg	0.03	0.00111	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	
Total Xylenes	None Detected	mg/kg	0.01	0.00133	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	S09
Acetone	0.012	mg/kg	0.03	0.0014	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00014	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	R11, R01
t-Butyl alcohol	0.0070	mg/kg	0.2	0.0036	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	
Carbon disulfide	None Detected	mg/kg	0.05	0.00017	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	R01
Diisopropyl ether	None Detected	mg/kg	0.003	0.00011	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00018	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	
2-Hexanone	None Detected	mg/kg	0.05	0.00111	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	
Methyl ethyl ketone	None Detected	mg/kg	0.006	0.00056	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	
Methyl isobutyl ketone	None Detected	mg/kg	0.006	0.00040	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	R11
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	R11
Vinyl acetate	None Detected	mg/kg	0.006	0.00078	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	377-100343	ND	S09
Surrogate Compounds		Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quants
1,2-Dichloroethane-d4	123	%	70-121	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND	S09	
Toluene-d8	101	%	81-117	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND		
4-Bromofluorobenzene	104	%	74-121	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54	376-100372	ND		
Identified Compounds		Result	Units	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quants	
ISOBUTANE	0.03	MG/KG	8260	07/21/03	07/21/03	19:10	JJH2	MS-V8	0.54					

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03-06562-4

Volatile Organic Analysis (EPA Method 8260)

Sample Description

MCAS EL TORO, SWMV198-SB-2-20', 07/15/2003 @ 08:20, LEO W. WILLIAMSON

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery is not within the control limits.
R01	The sample result is between the MDL and PQL.
R11	Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
Comments	
Prepared by EPA Method 5035.	

California DOHS Certification #1186

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03.DRFR2-A



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	Project Number	Sampling Location	Sampling Point	Sampled By	Receive Date/Time	Sampling Date/Time	Sample Depth	Sample Matrix	BCL Sample ID	QC	MB	L-6	Batch ID	Run Date	Run Time	Analyst	Method ID	Instrument	Prep Date	Method	Units	POD	MDL	Method	Result
					07/16/2003 @ 19:50	07/15/2003 @ 08:25	---	Soil	03-06562-5																
Benzene	None Detected	mg/kg	0.01	0.00051	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Bromodichloromethane	None Detected	mg/kg	0.01	0.00051	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Bromoform	None Detected	mg/kg	0.05	0.00023	8260	07/21/03	07/21/03	18:40	JJH2	MS-V8	0.64	376-100372	ND												
Bromomethane	None Detected	mg/kg	0.03	0.00112	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00035	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Chlorobenzene	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Chloroethane	None Detected	mg/kg	0.03	0.00111	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Chloroform	None Detected	mg/kg	0.01	0.00039	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Chloromethane	None Detected	mg/kg	0.03	0.00079	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Dibromochloromethane	None Detected	mg/kg	0.01	0.00045	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00050	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00070	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00025	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00024	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Ethylbenzene	None Detected	mg/kg	0.01	0.00042	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Methylene chloride	None Detected	mg/kg	0.05	0.00092	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Styrene	None Detected	mg/kg	0.01	0.00041	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												
Tetrachloroethene	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND												

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SW/MV198-SB-2-25', 07/15/2003 @ 08:25, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Toluene	0.00092	mg/kg	0.01	0.00057	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND	R01, Q02, Q03
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND	
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00042	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND	
Trichloroethene	None Detected	mg/kg	0.01	0.00061	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND	
Vinyl chloride	None Detected	mg/kg	0.03	0.0013	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND	Q02, Q03
Total Xylenes	None Detected	mg/kg	0.01	0.0016	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND	
Acetone	0.012	mg/kg	0.04	0.0017	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372	ND	
t-Amyl Methyl ether	None Detected	mg/kg	0.004	0.0016	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	R11, R01
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0043	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	
Carbon disulfide	None Detected	mg/kg	0.05	0.0020	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	
Diisopropyl ether	None Detected	mg/kg	0.004	0.0012	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	
Ethy t-butyl ether	None Detected	mg/kg	0.004	0.0021	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	
2-Hexanone	None Detected	mg/kg	0.05	0.0013	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	
Methyl ethyl ketone	None Detected	mg/kg	0.007	0.0006	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	
Methyl Isobutyl Ketone	None Detected	mg/kg	0.007	0.00048	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	R11
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00056	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	R11
Vinyl acetate	None Detected	mg/kg	0.007	0.00092	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	377-100343	ND	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	MB Bias	Lab Quals	
1,2-Dichloroethane-d4	116	%	70-121	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372			
Toluene-d8	102	%	84-117	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372			
4-Bromofluorobenzene	102	%	74-121	8260	07/21/03	07/21/03	19:40	JJH2	MS-V8	0.64	376-100372			

Flag Explanations

- Q02 Matrix spike precision is not within the control limits.
- Q03 Matrix spike recovery is not within the control limits.
- R01 The sample result is between the MDL and PQL.
- R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.

Comments

Prepared by EPA Method 5035.

California DOHS Certification #1186

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n2_n65e2 E

GEOFON
 22632 GOLDEN SPRINGS DRIVE, SUITE 270
 DIAMOND BAR, CA 91765
 Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	Receive Date/Time										07/16/2003 @ 19:50	
Project Number	Sampling Date/Time										07/15/2003 @ 07:45	
Sampling Location	Sample Depth										---	
Sampling Point	Sample Matrix										Soil	
Sampled By	BCL Sample ID											
Gasoline Range Organics	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	QC	MB
	0.055	mg/kg	0.6	0.024	8015M	07/25/03	07/25/03	06:48	TLF	GC-V8	0.51	302-100397
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	QC	MB	Lab
a,a,a-Trifluorotoluene (8015 Surrogate)	75	%	70-130	8015M	07/25/03	07/25/03	06:48	TLF	GC-V8	0.51	302-100397	Quals

Flag	Explanations
R01	The sample result is between the MDL and PQL.
Comments	
Prepared by	EPA Method 5035.

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R2_N66R2-1

GEOFON

22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50
Project Number	---	Sampling Date/Time	07/15/2003 @ 08:00
Sampling Location	MCAS EL TORO	Sample Depth	---
Sampling Point	SWMV198-SB-2-10'	Sample Matrix	Soil
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-2

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Method ID	Batch ID	QC	MB	Lab	Lab	Quals
Gasoline Range Organics	0.063	mg/kg	0.6	0.027	8015M	07/25/03	07/25/03	07:17	TLF	GC-V8	0.57	302-100397	ND	ND	ND	ND	R01
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Method ID	Batch ID	QC	MB	Lab	Lab	Quats	
a,a,a-Trifluorotoluene (8015 Surrogate)	90	%	70-130	8015M	07/25/03	07/25/03	07:17	TLF	GC-V8	0.57	302-100397	ND	ND	ND	ND	R01	

Flag	Explanations
R01	The sample result is between the MDL and PQL.
Comments	
Prepared by	EPA Method 5035.

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R01 R01 R01

R01 R01 R01

R01 R01 R01

GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50													
Project Number	---	Sampling Date/Time	07/15/2003 @ 08:10													
Sampling Location	MCAS EL TORO	Sample Depth	---													
Sampling Point	SWMV198-SB-2-15'	Sample Matrix	Soil													
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-3													
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Dilution	QC	Lab Bias	MB Bias	Lab Quats
Gasoline Range Organics	None Detected	mg/kg	0.6	0.027	8015M	07/25/03	07/25/03	07:46	TLF	GC-V8	0.58	302-100397	ND			
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Dilution	QC	Lab Bias	MB Bias	Lab Quats	
a,a-a-Trifluorotoluene (8015 Surrogate)	92	%	70-130	8015M	07/25/03	07/25/03	07:46	TLF	GC-V8	0.58	302-100397					

Comments

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03-06562-3



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50												
Project Number	---	Sampling Date/Time	07/15/2003 @ 08:20												
Sampling Location	MCAS EL TORO	Sample Depth	--												
Sampling Point	SW/MV198-SB-2-20'	Sample Matrix	Soil												
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-4												
Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Batch ID	QC	MB	Lab	Quats
Gasoline Range Organics	None Detected	mg/kg	0.6	0.026	8015M	07/25/03	07/25/03	10:58	TLF	GC-V8	0.56	302-100397	ND		
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Batch ID	QC	MB	Lab	Quats	
a,a,a-Trifluorotoluene (6015 Surrogate)	98	%	70-130	8015M	07/25/03	07/25/03	10:58	TLF	GC-V8	0.56	302-100397				

Comments

Prepared by EPA Method 5035.

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02...NCE20 1



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Project Number	---	Sampling Location	MCAS EL TORO	Sampling Point	SWMV198-SB-2-25'	Sampled By	LEO W. WILLIAMSON	Receive Date/Time	07/16/2003 @ 19:50			
Constituent	Result	Units	POQ	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	QC	MB	Lab	Quats
Gasoline Range Organics	None Detected	mg/kg	0.8	0.033	8015M	07/25/03	07/25/03	11:26	TLF	GC-V8	0.71	302-100397	ND	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	QC	MB	Lab	Quats	
a,a,a-Trifluorotoluene (8015 Surrogate)	96	%	70-130	8015M	07/25/03	07/25/03	11:26	TLF	GC-V8	0.71	302-100397			

Comments

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02-NR562-E



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50																
Project Number	--	Sampling Date/Time	07/15/2003 @ 07:45																
Sampling Location	MCAS EL TORO	Sample Depth	---																
Sampling Point	SWMV198-SB-2-5'	Sample Matrix	Soil																
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-1																
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru- ment ID	Dilution	QC	QC	Lab Batch ID	Lab Batch ID	Lab Bias	Lab Bias	Quals	Quals
Diesel Range Organics (C12 - C24)	7.2	mg/kg	10.	3.	8015M	07/19/03	07/23/03	19:03	JST	GC-13A	1.0								R01, A52
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru- ment ID	Dilution	QC	QC	Lab Batch ID	Lab Batch ID	Lab Bias	Lab Bias	Quals	Quals	
Tetracosane	73	%	45-137	8015M	07/19/03	07/23/03	19:03	JST	GC-13A	1.0									

Flag	Explanations
A52	Chromatogram not typical of diesel.
R01	The sample result is between the MDL and PQL.

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GEOFON

22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	---														
Project Number	---														
Sampling Location	MCAS EL TORO														
Sampling Point	SWMV198-SB-2-10'														
Sampled By	LEO W. WILLIAMSON														
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Time	Analyst	Instru- ment ID					
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/19/03	07/23/03	19:30	JST	GC-13A					
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Time	Analyst	Instru- ment ID	QC					
Tetracosane	91	%	45-137	8015M	07/19/03	07/23/03	19:30	JST	GC-13A	1.0					
COC Number	Receive Date/Time	07/16/2003 @ 19:50	Sampling Date/Time	07/15/2003 @ 08:00	Sample Depth	---									
Project Number	Sample Matrix	Soil													
Sampling Location	BCL Sample ID	03-06562-2													
Sampling Point	Batch ID	MS													
Sampled By	Batch ID	Lab													

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GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50										
Project Number	---	Sampling Date/Time	07/15/2003 @ 08:10										
Sampling Location	MCAS EL TORO	Sample Depth	---										
Sampling Point	SWMV198-SB-2-15'	Sample Matrix	Soil										
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-3										
Constituent	Result	Units	PoI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru	QC	MB	Lab Quals
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/19/03	07/23/03	19:56	JST	GC-13A	1.0		
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru	QC	MB	Lab Quals	
Tetracosane	93	%	45-137	8015M	07/19/03	07/23/03	19:56	JST	GC-13A	1.0			

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03-06562-3



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50											
Project Number	--	Sampling Date/Time	07/15/2003 @ 08:20											
Sampling Location	MCAS EL TORO	Sample Depth	---											
Sampling Point	SWMV198-SB-2-20'	Sample Matrix	Soil											
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-4											
Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru.	QC	MB	Lab	Quals
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/19/03	07/23/03	17:16	JST	GC-13A	1.0			
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru.	QC	MB	Lab	Quals	
Tetracosane	93	%	45-137	8015M	07/19/03	07/23/03	17:16	JST	GC-13A	1.0				

GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50																
Project Number	---	Sampling Date/Time	07/15/2003 @ 08:25																
Sampling Location	MCAS EL TORO	Sample Depth	---																
Sampling Point	SWMV/198-SB-2-25'	Sample Matrix	Soil																
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-5																
Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Time	Analyst	Instru-	QC	MS	Lab	Batch ID	Bias	Batch ID	Bias	Quals	Quals
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/19/03	07/23/03	20:23	JST	GC-13A	1.0								
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Time	Analyst	Instru-	QC	MS	Lab	Batch ID	Bias	Batch ID	Bias	Quals	Quals	
Tetracosane	91	%	45-137	8015M	07/19/03	07/23/03	20:23	JST	GC-13A	1.0									

California DOHS Certification #1186

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03-06562-5



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	---	Project Number	---	Sampling Location	MCAS EL TORO	Sampling Point	SWMV198-SB-2-5	Sampled By	LEO W. WILLIAMSON	Receive Date/Time	07/16/2003 @ 19:50	Sampling Date/Time	07/15/2003 @ 07:45	Sample Depth	---	Sample Matrix	Soil	BCL Sample ID	03-06562-1SPLP
Constituent	Result	Units	PQL	MDL	Methd	Prep Date	Run Date	Run Rate	Time	Anlyst	Batch ID	Instru.	Batch ID	QC	MS	Lab	Quals		
Benzene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Bromodichloromethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Bromoform	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Bromomethane	None Detected	mg/L	0.0010	0.00040	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Carbon tetrachloride	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Chlorobenzene	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Chloroethane	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Chloroform	None Detected	mg/L	0.00050	0.00016	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Chromothane	None Detected	mg/L	0.00050	0.00019	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Dibromochloromethane	None Detected	mg/L	0.00050	0.00014	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
1,1-Dichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
1,2-Dichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
1,1-Dichloroethene	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
cis-1,2-Dichloroethene	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
trans-1,2-Dichloroethene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
1,2-Dichloropropane	None Detected	mg/L	0.00050	0.00014	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
cis-1,3-Dichloropropene	None Detected	mg/L	0.00050	0.00015	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
trans-1,3-Dichloropropene	None Detected	mg/L	0.00050	0.00013	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Ethylbenzene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Methylene chloride	0.0014	mg/L	0.00010	0.00011	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Styrene	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
1,1,2,2-Tetrachloroethane	None Detected	mg/L	0.00050	0.00026	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						
Tetrachloroethene	0.00072	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND						

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03-06562-1SPLP

Volatile Organic Analysis (EPA Method 8260)

MCAS EL TORO, SWMV198-SB-2-5, 07/15/2003 @ 07:45, LEO W. WILLIAMSON

Sample Description	Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Labs Quals
Toluene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND	
1,1,1-Trichloroethane	None Detected	mg/L	0.00050	0.00016	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND	
1,1,2-Trichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND	
Trichloroethene	None Detected	mg/L	0.00050	0.00015	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND	
Vinyl chloride	None Detected	mg/L	0.00050	0.00024	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND	
Total Xylenes	None Detected	mg/L	0.0010	0.00062	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND	
Acetone	None Detected	mg/L	0.020	0.0069	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND	
t-Amyl Methyl ether	None Detected	mg/L	0.0010	0.00029	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
t-Butyl alcohol	None Detected	mg/L	0.012	0.0031	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
Carbon disulfide	None Detected	mg/L	0.0010	0.00068	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
Diisopropyl ether	None Detected	mg/L	0.0010	0.00023	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
Ethyl t-butyl ether	None Detected	mg/L	0.0010	0.00032	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
2-Hexanone	None Detected	mg/L	0.020	0.0071	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
Methyl ethyl ketone	None Detected	mg/L	0.020	0.0039	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
Methyl Isobutyl ketone	None Detected	mg/L	0.020	0.0032	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
Methyl t-butyl ether	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	320-100439	ND	
Vinyl acetate	None Detected	mg/L	0.020	0.0071	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470	ND	
Surrogate Compounds		Result	Units	Control Limits	Method	Prep Date	Run Date	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Labs Quals	
1,2-Dichloroethane-d4	114	%	76-114	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470			
Toluene-d8	102	%	88-110	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470			
4-Bromofluorobenzene	99	%	86-115	8260	07/28/03	07/31/03	18:15	LAM	MS-V4	1	319-100470			

Flag	Explanations
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
Comments	Methylene Chloride in SPLP PB at 0.0014mg/L.
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N2 NCEC2 10001



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	--			Receive Date/Time		07/16/2003 @ 19:50									
Project Number	--			Sampling Date/Time		07/15/2003 @ 08:25									
Sampling Location	MCAS EL TORO			Sample Depth		--									
Sampling Point	SWMV198-SB-2-25'			Sample Matrix		Soil									
Sampled By	LEO W. WILLIAMSON			BCL Sample ID		03-06562-5SPLP									
Constituent	Result	Units	PQL	MBL	Method	Prep. Date	Run Date	Time	Analyst	Instru.	Dilution	Matrix ID	QC	MB	Lab. Quals
Benzene	None Detected	mg/L	0.00050	0.00018	8220	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Bromodichloromethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Bromoform	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Bromomethane	None Detected	mg/L	0.00050	0.00040	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Carbon tetrachloride	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND	V11	
Chlorobenzene	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Chloroethane	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Chloroform	None Detected	mg/L	0.00050	0.00016	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Chlormethane	None Detected	mg/L	0.00050	0.00019	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Dibromochloromethane	None Detected	mg/L	0.00050	0.00014	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
1,1-Dichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
1,2-Dichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
1,1-Dichloroethene	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
cis-1,2-Dichloroethene	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
trans-1,2-Dichloroethene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
1,2-Dichloropropane	None Detected	mg/L	0.00050	0.00014	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
cis-1,3-Dichloropropene	None Detected	mg/L	0.00050	0.00015	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
trans-1,3-Dichloropropene	None Detected	mg/L	0.00050	0.00013	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Ethylbenzene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Methylene chloride	0.0016	mg/L	0.0010	0.00011	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Styrene	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
1,1,2,2-Tetrachloroethane	None Detected	mg/L	0.00050	0.00026	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Tetrachloroethene	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SWMV198-SB-2-25', 07/15/2003 @ 08:25, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	Batch ID	MB Bias	Lab Quals
Toluene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
1,1,1-Trichloroethane	None Detected	mg/L	0.00050	0.00016	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
1,1,2-Trichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Trichloroethene	None Detected	mg/L	0.00050	0.00015	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Vinyl chloride	None Detected	mg/L	0.00050	0.00024	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Total Xylenes	None Detected	mg/L	0.0010	0.00062	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Acetone	None Detected	mg/L	0.020	0.0069	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
t-Amyl Methyl ether	None Detected	mg/L	0.0010	0.00029	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
t-Butyl alcohol	None Detected	mg/L	0.012	0.0031	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
Carbon disulfide	None Detected	mg/L	0.0010	0.00068	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
Disopropyl ether	None Detected	mg/L	0.0010	0.00023	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
Ethyl t-butyl ether	None Detected	mg/L	0.0010	0.00032	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
2-Hexanone	None Detected	mg/L	0.020	0.0071	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
Methyl ethyl ketone	None Detected	mg/L	0.020	0.0039	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
Methyl isobutyl ketone	None Detected	mg/L	0.020	0.0032	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
Methyl t-butyl ether	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	320-100439	ND		
Vinyl acetate	None Detected	mg/L	0.020	0.0071	8260	07/28/03	07/31/03	19:37	LAM	MS-V4	1	319-100470	ND		
Surrogate Compounds															
Flag	Explanations	Result	Control	Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	Batch ID	MB Bias	Lab Quals
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.														
	Comments														
	Methylene Chloride in SPLP PB at 0.0014mg/L.														

California DOHS Certification #1186

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#306569-FSPID



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	Result			Units	PGI	MDL	Method	Prep Date	Run Date	Time	Analyst	Instru-	Instu-	Batch ID	QC	MB	Lab	Quals
Project Number	---											ment ID	Dilution	Batch ID				
Sampling Location	MCAS EL TORO																	
Sampling Point	SW/MV/198-SB-2-5'																	---
Sampled By	LEO W. WILLIAMSON																	Soil
Constituent	Result			Units	PGI	MDL	Method	Prep Date	Run Date	Time	Analyst	Instru-	Instu-	Batch ID	QC	MB	Lab	Quals
Gasoline Range Organics	None Detected			mg/L	0.050	0.0018	8015M	08/01/03	08/01/03	11:15	HKS	GC-V5	1	298-100366	ND			
Surrogate Compounds	Result			Units	Control Limits	Method	Prep Date	Run Date	Time	Analyst	Instru-	Instu-	Batch ID	QC	MB	Lab	Quals	
a,a-Trifluorotoluene (8015 Surrogate)	103			%	70-130		8015M	08/01/03	08/01/03	11:15	HKS	GC-V5	1	298-100366				

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03-06562-1SPI P



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number											Receive Date/Time	07/16/2003 @ 19:50	
Project Number											Sampling Date/Time	07/15/2003 @ 08:00	
Sampling Location	MCAS EL TORO										Sample Depth	---	
Sampling Point	SW/MV198-SB-2-10'										Sample Matrix	Soil	
Sampled By	LEO W. WILLIAMSON										BCL Sample ID	03-06562-2SPLP	
Constituent	Result	Units	PGL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	MB	Labs
Gasoline Range Organics	None Detected	mg/L	0.050	0.0018	8015M	08/01/03	08/01/03	11:45	HKS	GC-V5	1	298-100366	ND
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	MB	Labs	Quals
a,a,a-Trifluorotoluene (8015 Surrogate)	109	%	70-130	8015M	08/01/03	08/01/03	11:45	HKS	GC-V5	1	298-100366		

California DOHS Certification #11186

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NZL-NRERG9 2CD1D



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attr: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	Result	Units	PoI	Min	Method	Prep Date	Run Date	Run Time	Instrument	Instrument ID	QC	MB	TB	Bias	Quals
Diesel Range Organics (C12 - C24)	None Detected	mg/l	2	0.66	8015M	08/06/03	08/07/03	15:45	JST	GC-13A	1				
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Instrument	Instrument ID	QC	MB	TB	Bias	Quals	
Tetacosane	63	%	40-130	8015M	08/06/03	08/07/03	15:45	JST	GC-13A	1					

Comments

SPLP extract analyzed.

California DOHs Certification #1186

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GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50													
Project Number	--	Sampling Date/Time	07/15/2003 @ 08:00													
Sampling Location	MCAS EL TORO	Sample Depth	---													
Sampling Point	SWMV198-SB-2-10'	Sample Matrix	Soil													
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-2SPLP													
Constituent	Result	Units	POU	MBI	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	QC	MB	MB	Lab Quals	Lab Quals
Diesel Range Organics (C12 - C24)	None Detected	mg/L	2	0.66	8015M	08/06/03	08/07/03	18:29	JST	GC-13A	1	1	1	1	1	1
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Method	Batch ID	Batch ID	MB	MB	Lab Quals	Lab Quals
Tetacosane	71	%	40-130	8015M	08/06/03	08/07/03	18:29	JST	GC-13A	1	1	1	1	1	1	

Comments

SPLP extract analyzed.

California DOHS Certification #1186

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GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	Result	Units	POI	MDL	Method	Prep Date	Run Date	Run	Instrument	Method ID	GC	MS	Lab Quals
Project Number	None Detected	ug/L	0.5	0.035	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Sampling Location	None Detected	ug/L	0.5	0.087	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Sampling Point	MCAS EL TORO												
Sampled By	SWMV198-RB-7/15/03-5												
	LEO W. WILLIAMSON												
	BCL Sample ID												
	03-06562-6												
Constituent													
Benzene	None Detected	ug/L	0.5	0.035	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Bromodichloromethane	None Detected	ug/L	0.5	0.087	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Bromoform	None Detected	ug/L	0.5	0.13	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Bromomethane	None Detected	ug/L	1	0.37	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Carbon tetrachloride	None Detected	ug/L	0.5	0.057	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Chlorobenzene	None Detected	ug/L	0.5	0.049	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Chloroethane	None Detected	ug/L	0.5	0.11	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Chloroform	0.20	ug/L	0.5	0.048	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Chromomethane	None Detected	ug/L	0.5	0.056	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Dibromochloromethane	None Detected	ug/L	0.5	0.12	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
1,1-Dichloroethane	None Detected	ug/L	0.5	0.061	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
1,2-Dichloroethane	None Detected	ug/L	0.5	0.12	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
1,1-Dichloroethene	None Detected	ug/L	0.5	0.054	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
cis-1,2-Dichloroethene	None Detected	ug/L	0.5	0.070	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
trans-1,2-Dichloroethene	None Detected	ug/L	0.5	0.083	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
1,2-Dichloropropane	None Detected	ug/L	0.5	0.13	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
cis-1,3-Dichloropropane	None Detected	ug/L	0.5	0.12	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
trans-1,3-Dichloropropene	None Detected	ug/L	0.5	0.11	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Ethylbenzene	None Detected	ug/L	0.5	0.030	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Methylene chloride	None Detected	ug/L	1	0.12	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Styrene	None Detected	ug/L	0.5	0.068	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
1,1,2,2-Tetrachloroethane	None Detected	ug/L	0.5	0.078	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND
Tetrachloroethene	None Detected	ug/L	0.5	0.049	8260	07/26/03	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND

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Printed 08/19/2003 11:42:13

Receive Date/Time 07/16/2003 @ 19:50

Sampling Date/Time 07/15/2003 @ 09:30

Sample Depth ---

Sample Matrix Water

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SW/MV198-RB-7/15/03-5, 07/15/2003 @ 09:30, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Method ID	Dilution	QC Batch ID	MB Bias	t-BaQ	GBias
Toluene	None Detected	ug/L	0.5	0.042	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND				
1,1,1-Trichloroethane	None Detected	ug/L	0.5	0.072	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND				
1,1,2-Trichloroethane	None Detected	ug/L	0.5	0.13	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND				
Trichloroethylene	None Detected	ug/L	0.5	0.092	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND				
Vinyl chloride	None Detected	ug/L	0.5	0.092	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND				
Total Xylenes	None Detected	ug/L	1	0.14	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND				
Acetone	None Detected	ug/L	20	1.9	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND				
t-Amyl Methyl ether	None Detected	ug/L	1	0.11	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	10				
t-Butyl alcohol	None Detected	ug/L	12	3.0	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	ND				
Carbon disulfide	None Detected	ug/L	1	0.28	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	ND				
Diisopropyl ether	None Detected	ug/L	1	0.24	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	ND				
Ethy t-butyl ether	None Detected	ug/L	1	0.073	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	ND				
2-Hexanone	None Detected	ug/L	20	1.1	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	ND				
Methyl ethyl ketone	None Detected	ug/L	20	1.1	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	ND				
Methyl isobutyl ketone	None Detected	ug/L	20	0.59	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	ND				
Methyl t-butyl ether	None Detected	ug/L	0.5	0.054	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589	ND				
Vinyl acetate	None Detected	ug/L	20	1.8	8260	07/26/03	04:02	MGC	MS-V5	1	318-100594	ND				
Surrogate Compounds		Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Method ID	Dilution	QC Batch ID	MB Bias	t-BaQ	GBias
1,2-Dichloroethane-d4	102	%	76-114	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589						
Toluene-d8	92	%	88-110	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589						
4-Bromofluorobenzene	100	%	86-115	8260	07/26/03	04:02	MGC	MS-V5	1	317-100589						

Flag	Explanations
R01	The sample result is between the MDL and PQL.
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.

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N2 N2E202 A

GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---											Receive Date/Time	07/16/2003 @ 19:50			
Project Number	---											Sampling Date/Time	07/15/2003 @ 09:30			
Sampling Location	MCAS EL TORO											Sample Depth	--			
Sampling Point	SWMV198-RB-7/15/03-5											Sample Matrix	Water			
Sampled By	LEO W. WILLIAMSON											BCL Sample ID	03-06562-6			
Constituent	Result	Units	PGI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Dilution	QC	MB	Lab	Quals
Gasoline Range Organics	None Detected	ug/L	50	14	8015M	07/25/03	07/25/03	15:45	RTK	GC-V1	1	294-100442	ND			
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	Dilution	QC	MB	Lab	Quals	
a.a.a-Trifluorotoluene (8015 Surrogate)	105	%	70-130	8015M	07/25/03	07/25/03	15:45	RTK	GC-V1	1	294-100442	ND				

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03_06562-6

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Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	--	Receive Date/Time	07/16/2003 @ 19:50														
Project Number	--	Sampling Date/Time	07/15/2003 @ 09:30														
Sampling Location	MCAS EL TORO	Sample Depth	--														
Sampling Point	SWMMV198-RB-7/15/03-5	Sample Matrix	Water														
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06562-6														
Constituent	Result	Units	PoI	Min	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Instrument ID	Dilution	QC	Batch ID	MB	Lab Bias	Lab Quais
Diesel Range Organics (C12 - C24)	None Detected	ug/L	200.	66.	8015M	07/17/03	07/21/03	15:59	JST			1.0					
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Instrument ID	Dilution	QC	Batch ID	MB	Lab Bias	Lab Quais	
Tetracosane	76	%	40-130	8015M	07/17/03	07/21/03	15:59	JST			1.0						

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03-06562-6

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FAX (909) 396-7662 • FAX (909) 396-1455

REASON LAB COORDINATOR

John W. Morrison

PROJECT LOCATION

EST. S. 10 759

PROJECT NUMBER

(714) 974-5729

PROJECT PHONE NUMBER

(714) 396-2662

PROJECT MANAGER'S PHONE

(714) 396-2662

PROJECT MANAGER'S ADDRESS

MCAS - E. 1. Terre

PROJECT MANAGER'S CITY, STATE AND ZIPCODE

Aliso Viejo, CA

PROJECT MANAGER'S PROJECT NUMBER

974-5729

PROJECT MANAGER'S PROJECT NAME

Project Site

LAB COORDINATOR'S PHONE

(714) 396-2662

LAB COORDINATOR'S PROJECT NUMBER

1455

LAB COORDINATOR'S PROJECT FAX

1909

LAB COORDINATOR'S PROJECT ADDRESS

1661 S. 221st St.

LAB COORDINATOR'S CITY, STATE AND ZIPCODE

Long Beach, CA 90806

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22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	---			Receive Date/Time	07/16/2003 @ 19:50
Project Number	---			Sampling Date/Time	07/15/2003 @ 09:25
Sampling Location	MCAS EL TORO			Sample Depth	---
Sampling Point	SVMV198-SB-3-5'			Sample Matrix	Soil
Sampled By	LEO W. WILLIAMSON			BCL Sample ID	03-06563-1
Constituent	Result	Units	POL	MDL	Method
Benzene	None Detected	mg/kg	0.01	0.00040	8260
Bromodichloromethane	None Detected	mg/kg	0.01	0.00039	8260
Bromoform	None Detected	mg/kg	0.05	0.00018	8260
Bromomethane	None Detected	mg/kg	0.03	0.00088	8260
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00027	8260
Chlorobenzene	None Detected	mg/kg	0.01	0.00031	8260
Chloroethane	None Detected	mg/kg	0.03	0.00082	8260
Chloroform	0.00034	mg/kg	0.01	0.00030	8260
Chloromethane	None Detected	mg/kg	0.03	0.00061	8260
Dibromochloromethane	None Detected	mg/kg	0.01	0.00034	8260
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00029	8260
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00026	8260
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00038	8260
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00029	8260
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00054	8260
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00027	8260
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00019	8260
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00018	8260
Ethylbenzene	None Detected	mg/kg	0.01	0.00033	8260
Methylene chloride	None Detected	mg/kg	0.05	0.00070	8260
Styrene	None Detected	mg/kg	0.01	0.00032	8260
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00031	8260
Tetrachloroethene	0.024	mg/kg	0.01	0.00029	8260

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Volatile Organic Analysis (EPA Method 8260)

Sample Description		MCAS EL TORO, SW/MV198-SB-3-5', 07/15/2003 @ 09:25, LEO W. WILLIAMSON													
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrum.	Dilution	QC	MB	Bias	Lab Quals
Toluene	0.00061	mg/kg	0.01	0.00044	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND	R01, Q02, Q03	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00026	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND		
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00032	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND		
Trichloroethene	0.00048	mg/kg	0.01	0.00046	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND		
Vinyl chloride	None Detected	mg/kg	0.03	0.00099	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND	R01, Q02, Q03	
Total Xylenes	None Detected	mg/kg	0.01	0.0012	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND		
Acetone	0.14	mg/kg	0.05	0.0013	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND		
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00012	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND		
t-Butyl alcohol	0.0040	mg/kg	0.1	0.0033	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	377-100343	ND		
Carbon disulfide	None Detected	mg/kg	0.05	0.00016	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	377-100343	ND	R01	
Diisopropyl ether	None Detected	mg/kg	0.003	0.000092	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	377-100343	ND		
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00016	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	377-100343	ND		
2-Hexanone	None Detected	mg/kg	0.05	0.00096	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	377-100343	ND		
Methyl ethyl ketone	0.017	mg/kg	0.005	0.00051	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	377-100343	ND		
Methyl isobutyl ketone	None Detected	mg/kg	0.005	0.00037	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	377-100343	ND	R11	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00043	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	377-100343	ND	R11	
Vinyl acetate	None Detected	mg/kg	0.005	0.00071	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND		
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrum.	Dilution	QC	MB	Bias	Lab Quals	
1,2-Dichloroethane-d4	121	%	70-121	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND			
Toluene-d8	94	%	81-117	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND			
4-Bromofluorobenzene	87	%	74-121	8260	07/21/03	07/21/03	20:11	JJH2	MS-V8	0.49	376-100372	ND			

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03-06563-1



Volatile Organic Analysis (EPA Method 8260)

Sample Description

MCAS EL TORO, SW/MV198-SB-3-5', 07/15/2003 @ 09:25, LEO W. WILLIAMSON

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery is not within the control limits.
R01	The sample result is between the MDL and PQL.
R11	Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.
Comments	
Prepared by EPA Method 5035.	

California DOHS Certification #1186

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N2 N2E29 4



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	Result	Units	PCV	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Batch ID	QC	MS Bits	Lab Quats
Benzene	None Detected	mg/kg	0.01	0.00046	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03
Bromodichloromethane	None Detected	mg/kg	0.01	0.00045	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03
Bromoform	None Detected	mg/kg	0.05	0.00021	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03
Bromomethane	None Detected	mg/kg	0.03	0.0011	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00031	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
Chlorobenzene	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
Chloroethane	None Detected	mg/kg	0.03	0.00095	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03
Chloroform	None Detected	mg/kg	0.01	0.00035	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03
Chloromethane	None Detected	mg/kg	0.03	0.00071	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
Dibromochloromethane	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00030	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00044	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00062	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00032	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00022	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00021	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
Ethylbenzene	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
Methylene chloride	0.0080	mg/kg	0.05	0.00082	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
Styrene	None Detected	mg/kg	0.01	0.00037	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	R01
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	
Tetrachloroethene	0.00038	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	R01

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SWMV198-SB-3-10', 07/15/2003 @ 09:40, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Batch	Lb Quats	
Toluene	0.00065	mg/kg	0.01	0.00051	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	R01,002,003	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00030	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND		
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND		
Trichloroethylene	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND		
Vinyl chloride	None Detected	mg/kg	0.03	0.0012	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND	q02,q03	
Total Xylenes	None Detected	mg/kg	0.01	0.0014	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND		
Acetone	0.04	mg/kg	0.03	0.0015	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND		
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00014	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND	R11	
t-Butyl alcohol	0.0057	mg/kg	0.2	0.0038	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND		
Carbon disulfide	None Detected	mg/kg	0.05	0.00018	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND	R01	
Diisopropyl ether	None Detected	mg/kg	0.003	0.00011	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND		
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00019	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND		
2-Hexanone	None Detected	mg/kg	0.05	0.0012	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND		
Methyl ethyl ketone	0.0041	mg/kg	0.006	0.00059	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND		
Methyl isobutyl ketone	None Detected	mg/kg	0.006	0.00042	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND	R11,R01	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00050	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	377-100343	ND	R11	
Vinyl acetate	None Detected	mg/kg	0.006	0.00032	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372	ND		
Surrogate Compounds															
1,2-Dichloroethane-d4	116	%	70-121	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372				
Toluene-d8	104	%	81-117	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372				
4-Bromofluorobenzene	105	%	74-121	8260	07/21/03	07/21/03	20:41	JJH2	MS-V8	0.57	376-100372				

Flag Explanations

- Q02 Matrix spike precision is not within the control limits.
- Q03 Matrix spike recovery is not within the control limits.
- R01 The sample result is between the MDL and PQL.
- R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.
- Comments
- Prepared by EPA Method 5035.

California DOHS Certification #1186

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Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	Project Number		Sampling Location		Sampling Point		Sampled By		Receive Date/Time		Sampling Date/Time		Sample Depth		Sample Matrix		BCL Sample ID		QC		MB		Lab. Details				
	---	---	MCAS EL TORO	SWMV198-SB-3-15'	LEO W. WILLIAMSON	---	---	---	07/16/2003 @ 19:50	07/15/2003 @ 09:45	---	---	Soil	03-06563-3	Batch ID	Run	Instrument	Analyst	Run Date	Prep Date	MDL	Method	Date	Units	PQL	Method	Constituent
Benzene	0.00058	mg/kg	0.01	0.00050	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	R01, Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane	None Detected	mg/kg	0.01	0.00049	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	R01, Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromoform	None Detected	mg/kg	0.05	0.00023	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Bromomethane	None Detected	mg/kg	0.03	0.0012	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorobenzene	None Detected	mg/kg	0.01	0.00039	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroethane	None Detected	mg/kg	0.03	0.0011	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloroform	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Chloromethane	None Detected	mg/kg	0.03	0.00077	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibromochloromethane	None Detected	mg/kg	0.01	0.00043	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00037	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00033	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00037	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00068	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00035	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00024	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00023	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	None Detected	mg/kg	0.01	0.00041	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Methylene chloride	0.0015	mg/kg	0.05	0.00089	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
Styrene	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00039	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	---	---	---	---	---	---	---	---	---	---	---	---	---

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SW/MV198-SB-3-15', 07/15/2003 @ 09:45, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Dilution	QC	MB	MB Bias	Lab Quals
Tetrachloroethene	0.0014	mg/kg	0.01	0.00037	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	R01	
Toluene	0.00077	mg/kg	0.01	0.00055	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	R01, Q02, Q03	
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00033	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND		
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00041	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND		
Trichloroethene	None Detected	mg/kg	0.01	0.00059	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND		
Vinyl chloride	None Detected	mg/kg	0.03	0.0013	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	Q02, Q03	
Total Xylenes	None Detected	mg/kg	0.01	0.0015	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND		
Acetone	0.0082	mg/kg	0.04	0.0016	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND		
t-Amyl Methyl ether	None Detected	mg/kg	0.004	0.00016	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND	R11, R01	
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0042	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND		
Carbon disulfide	None Detected	mg/kg	0.05	0.00020	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND		
Diisopropyl ether	None Detected	mg/kg	0.004	0.00012	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND		
Ethyl t-butyl ether	None Detected	mg/kg	0.004	0.00020	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND		
2-Hexanone	None Detected	mg/kg	0.05	0.0013	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND		
Methyl ethyl ketone	None Detected	mg/kg	0.007	0.00064	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND		
Methyl isobutyl ketone	None Detected	mg/kg	0.007	0.00046	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND	R11	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND	R11	
Vinyl acetate	None Detected	mg/kg	0.007	0.00089	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	377-100343	ND	R11	
Surrogate Compounds		Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Dilution	QC	MB	MB Bias	Lab Quals
1,2-Dichloroethane-d4	115	%	70-121	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND			
Toluene-d8	103	%	81-117	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND			
4-Bromofluorobenzene	105	%	74-121	8260	07/21/03	07/21/03	21:11	JJH2	MS-V8	0.62	376-100372	ND			

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#2_QC_EG2_2



Volatile Organic Analysis (EPA Method 8260)

Sample Description

MCAS EL TORO, SWMV198-SB-3-15', 07/15/2003 @ 09:45, LEO W. WILLIAMSON

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery is not within the control limits.
R01	The sample result is between the MDL and PQL.
R11	Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.
Comments	
Prepared by EPA Method 5035.	

California DOHS Certification #1186

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N2_NGEG2 3



GEOFON
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DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	--	Receive Date/Time	07/16/2003 @ 19:50											
Project Number	--	Sampling Date/Time	07/15/2003 @ 09:50											
Sampling Location	MCAS EL TORO	Sample Depth	--											
Sampling Point	SWMV198-SB-3-20'	Sample Matrix	Soil											
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-4											
Constituent	Result	Units	PoI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC	MB Bias	Lab Quals
Benzene	None Detected	mg/kg	0.01	0.00046	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
Bromodichloromethane	None Detected	mg/kg	0.01	0.00045	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
Bromoform	None Detected	mg/kg	0.05	0.00021	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
Bromomethane	None Detected	mg/kg	0.03	0.0011	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00031	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
Chlorobenzene	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
Chloroethane	None Detected	mg/kg	0.03	0.00095	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
Chloroform	None Detected	mg/kg	0.01	0.00035	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
Chloromethane	None Detected	mg/kg	0.03	0.00071	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
Dibromochloromethane	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00030	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.00044	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00062	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00032	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00022	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	q02,q03	
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00021	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
Ethylbenzene	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
Methylene chloride	0.00083	mg/kg	0.05	0.00082	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
Styrene	None Detected	mg/kg	0.01	0.00037	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND	R01	
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		
Tetrachloroethene	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	21:42	JH2	MS-V8	0.57	376-100372	ND		

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n2_nocera2_A

Volatile Organic Analysis (EPA Method 8260)

MCAS EL TORO, SWM/V198-SB-3-20'. 07/15/2003 @ 09:50, LEO W. WILLIAMSON

Constituent	Sample Description	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-mentID	Dilution	QC Batch ID	MS Bias	Lab Quals
Toluene		0.00072	mg/kg	0.01	0.00051	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372	ND	R01, Q02, Q3
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00030	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372	ND		
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372	ND		
Trichloroethylene	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372	ND		
Vinyl chloride	None Detected	mg/kg	0.03	0.00112	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372	ND	Q02, Q03	
Total Xylenes	None Detected	mg/kg	0.01	0.0014	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372	ND		
Acetone	0.018	mg/kg	0.03	0.00115	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372	ND		
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00014	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND	R11, R01	
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0038	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND		
Carbon disulfide	None Detected	mg/kg	0.05	0.00018	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND		
Diisopropyl ether	None Detected	mg/kg	0.003	0.00011	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND		
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00019	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND		
2-Hexanone	None Detected	mg/kg	0.05	0.0012	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND		
Methyl ethyl ketone	0.0025	mg/kg	0.006	0.00059	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND		
Methyl Isobutyl Ketone	None Detected	mg/kg	0.006	0.00042	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND		
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00050	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	377-100343	ND	R11	
Vinyl acetate	None Detected	mg/kg	0.006	0.00082	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372	ND		
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-mentID	Dilution	QC Batch ID	MS Bias	Lab Quals		
1,2-Dichloroethane-d4	112	%	70-121	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372				
Toluene-d8	103	%	81-117	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372				
4-Bromofluorobenzene	104	%	74-121	8260	07/21/03	07/21/03	21:42	JJH2	MS-V8	0.57	376-100372				

Flag Explanations

- Q02 Matrix spike precision is not within the control limits.
- Q03 Matrix spike recovery is not within the control limits.
- R01 The sample result is between the MDL and PQL.
- R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.

Comments

Prepared by EPA Method 5035.

California DOHS Certification #11186

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03-06563-4



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DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number ---

Project Number ---

Sampling Location MCAS EL TORO

Sampling Point SWMV/198-SB-3-25'

Sampled By LEO W. WILLIAMSON

Constituent	Result	Units	EPA	Method	Prep Date	Run Date	Time	Analysis	Instrument	Batch ID	QC	MB	Batch ID	Lab	Quals	
Benzene	None Detected	mg/kg	0.01	0.00049	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
Bromodichloromethane	None Detected	mg/kg	0.01	0.00048	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
Bromoform	None Detected	mg/kg	0.05	0.00022	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
Bromomethane	None Detected	mg/kg	0.03	0.0011	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
Carbon tetrachloride	None Detected	mg/kg	0.01	0.00033	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
Chlorobenzene	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
Chloroethane	None Detected	mg/kg	0.03	0.0011	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
Chloroform	None Detected	mg/kg	0.01	0.00037	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
Chloromethane	None Detected	mg/kg	0.03	0.00076	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
Dibromochloromethane	None Detected	mg/kg	0.01	0.00043	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.00037	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.00032	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
1,1-Dichloropropane	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.00067	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.00034	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00023	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03			
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.00022	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
Ethybenzene	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
Methylene chloride	0.0045	mg/kg	0.05	0.00087	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
Styrene	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	R01			
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.00038	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				
Tetrachloroethene	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND				

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Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, SWMV198-SB-3-25', 07/15/2003 @ 10:00, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quarts
Toluene	0.00061	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	R01, Q02, Q03
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00032	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00040	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	
Trichloroethylene	None Detected	mg/kg	0.01	0.00058	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	
Vinyl chloride	None Detected	mg/kg	0.03	0.0013	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	Q02, Q03
Total Xylenes	None Detected	mg/kg	0.01	0.0015	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	
Acetone	0.0084	mg/kg	0.04	0.0016	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	
t-Amyl Methyl ether	None Detected	mg/kg	0.004	0.00015	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	R01
t-Butyl alcohol	0.0048	mg/kg	0.2	0.0041	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	
Carbon disulfide	None Detected	mg/kg	0.05	0.00020	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	R01
Diisopropyl ether	None Detected	mg/kg	0.004	0.00012	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	
Ethyl t-butyl ether	None Detected	mg/kg	0.004	0.00020	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	
2-Hexanone	None Detected	mg/kg	0.05	0.0012	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	
Methyl ethyl ketone	None Detected	mg/kg	0.007	0.00063	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	
Methyl isobutyl ketone	None Detected	mg/kg	0.007	0.00045	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	R11
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00054	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372	ND	R11
Vinyl acetate	None Detected	mg/kg	0.007	0.00088	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	377-100343	ND	R11
Surrogate Compounds														
1,2-Dichloroethane-d4	115	%	70-121	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372			
Toluene-d8	103	%	81-117	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372			
4-Bromofluorobenzene	104	%	74-121	8260	07/21/03	07/21/03	22:12	JJH2	MS-V8	0.61	376-100372			

Flag Explanations

- Q02 Matrix spike precision is not within the control limits.
- Q03 Matrix spike recovery is not within the control limits.
- R01 The sample result is between the MDL and PQL.
- R11 Per client request the reported PQL is less than the laboratory PQL but above the laboratory MDL.

Comments

Prepared by EPA Method 5035.

California DOHS Certification #1186

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03-06563-5



GEOFON
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DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	BCL Sample ID 03-06563-6									
Project Number	Receive Date/Time 07/16/2003 @ 19:50									
Sampling Location	Sampling Date/Time 07/15/2003									
Sampling Point	Sample Depth ---									
Sampled By	Sample Matrix Soil									
Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Time	Analyst	Instrum.
Benzene	0.00044	mg/kg	0.01	0.000043	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Bromodichloromethane	None Detected	mg/kg	0.01	0.000043	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Bromoform	None Detected	mg/kg	0.05	0.00020	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Bromomethane	None Detected	mg/kg	0.03	0.000097	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Carbon tetrachloride	None Detected	mg/kg	0.01	0.000030	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Chlorobenzene	None Detected	mg/kg	0.01	0.000034	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Chloroethane	None Detected	mg/kg	0.03	0.000090	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Chloroform	None Detected	mg/kg	0.01	0.000033	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Chloromethane	None Detected	mg/kg	0.03	0.000067	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Dibromochloromethane	None Detected	mg/kg	0.01	0.000038	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
1,1-Dichloroethane	None Detected	mg/kg	0.01	0.000032	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
1,2-Dichloroethane	None Detected	mg/kg	0.01	0.000029	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
1,1-Dichloroethene	None Detected	mg/kg	0.01	0.000042	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
cis-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.000032	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
trans-1,2-Dichloroethene	None Detected	mg/kg	0.01	0.000059	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
1,2-Dichloropropane	None Detected	mg/kg	0.01	0.000030	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
cis-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.000021	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
trans-1,3-Dichloropropene	None Detected	mg/kg	0.01	0.000020	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Ethylbenzene	None Detected	mg/kg	0.01	0.000036	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Methylene chloride	None Detected	mg/kg	0.05	0.000077	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
Styrene	None Detected	mg/kg	0.01	0.000035	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.01	0.000034	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8

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N2-N6563-2.R



Volatile Organic Analysis (EPA Method 8260)

Sample Description		MCAS EL TORO, 759-DUPE-8, 07/15/2003, LEO W. WILLIAMSON												
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Tetrachloroethene	0.0015	mg/kg	0.01	0.00032	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372	ND	R01
Toluene	0.00065	mg/kg	0.01	0.00048	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372	ND	R01, Q02, Q03
1,1,1-Trichloroethane	None Detected	mg/kg	0.01	0.00029	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372	ND	
1,1,2-Trichloroethane	None Detected	mg/kg	0.01	0.00036	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372	ND	
Trichloroethene	None Detected	mg/kg	0.01	0.00051	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372	ND	
Vinyl chloride	None Detected	mg/kg	0.03	0.0011	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372	ND	Q02, Q03
Total Xylenes	None Detected	mg/kg	0.01	0.0013	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372	ND	
Acetone	0.017	mg/kg	0.03	0.0014	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372	ND	
t-Amyl Methyl ether	None Detected	mg/kg	0.003	0.00014	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	R11, R01
t-Butyl alcohol	None Detected	mg/kg	0.2	0.0036	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	
Carbon disulfide	None Detected	mg/kg	0.05	0.00017	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	
Diisopropyl ether	None Detected	mg/kg	0.003	0.00011	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	
Ethyl t-butyl ether	None Detected	mg/kg	0.003	0.00018	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	
2-Hexanone	None Detected	mg/kg	0.05	0.0011	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	
Methyl ethyl ketone	None Detected	mg/kg	0.006	0.00056	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	
Methyl isobutyl ketone	None Detected	mg/kg	0.006	0.00040	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	
Methyl t-butyl ether	None Detected	mg/kg	0.01	0.00047	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	
Vinyl acetate	None Detected	mg/kg	0.006	0.00078	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	377-100343	ND	R11
Surrogate Compounds		Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2-Dichloroethane-d4	118	%	70-121	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372			
Toluene-d8	104	%	81-117	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372		R11	
4-Bromofluorobenzene	107	%	74-121	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372		R11	
Unknown Identified Compounds		Result	Units	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals	
BUTANE,1-ISOCYANO-	0.01	MG\KG	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372				
Pentane	0.01	MG\KG	8260	07/21/03	07/21/03	22:42	JJH2	MS-V8	0.54	376-100372				

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n2_narsca &



Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS EL TORO, 759-DUPE-8, 07/15/2003, LEO W. WILLIAMSON

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery is not within the control limits.
R01	The sample result is between the MDL and PQL.
R11	Per client request the reported PQL is less than the laboratory MDL.

Comments

Prepared by EPA Method 5035.

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03-06562-6

GEOFON
 22632 GOLDEN SPRINGS DRIVE, SUITE 270
 DIAMOND BAR, CA 91765
 Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	--	Receive Date/Time	07/16/2003 @ 19:50															
Project Number	--	Sampling Date/Time	07/15/2003 @ 09:25															
Sampling Location	MCAS EL TORO	Sample Depth	--															
Sampling Point	SWMV198-SB-3-5'	Sample Matrix	Soil															
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-1															
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Intstd	Intstd ID	Dilution	QC	MB	MB	Lab	Lab Quals
Diesel Range Organics (C12 - C24)	44	mg/kg	60	3.	8015M	07/19/03	07/24/03	12:27	JST	GC-13A	5.8						A52, R01	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Intstd	Intstd ID	Dilution	QC	MB	MB	Lab	Lab Quals	
Tetracosane	87	%	45-137	8015M	07/19/03	07/24/03	12:27	JST	GC-13A	5.8								

Flag	Explanations
A52	Chromatogram not typical of diesel.
R01	The sample result is between the MDL and PQL.

California DOHS Certification #1186

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GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number										Receive Date/Time									
Project Number										Sampling Date/Time									
Sampling Location										Sample Depth									
Sampling Point										Sample Matrix									
Sampled By										BCL Sample ID									
Diesel Range Organics (C12 - C24)	Result	Units	PoI	MDL	Method	Prep Date	Run Date	Run Time	Instrument	QC	MS	Bias	Lab	QC	MS	Bias	Lab	QC	MS
None Detected	mg/kg	10.	3.	8015M	07/19/03	07/24/03	12:54	JST	GC-13A	1									
Tetraacosane	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	MS	Bias	Lab	QC	MS	Bias	Lab	QC	MS
	96	%	45-137	8015M	07/19/03	07/24/03	12:54	JST	GC-13A	1									

California DOHS Certification #1186

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03-06563-2



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	--	Receive Date/Time	07/16/2003 @ 19:50											
Project Number	--	Sampling Date/Time	07/15/2003 @ 09:45											
Sampling Location	MCAS EL TORO	Sample Depth	---											
Sampling Point	SWMV198-SB-3-15'	Sample Matrix	Soil											
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-3											
Constituent	Result	Units	POI	MDL	Method	Prep Date	Run Date	Time	Analyst	Instrument	QC	MB	Lab Bias	Lab Quals
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/19/03	07/24/03	13:21	JST	GC-13A	1			
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Time	Analyst	Instrument	Method ID	QC	MB	Lab Bias	Lab Quals
Tetracosane	99	%	45-137	8015M	07/19/03	07/24/03	13:21	JST	GC-13A	1				

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03-06563-3

GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	--	Receive Date/Time	07/16/2003 @ 19:50											
Project Number	--	Sampling Date/Time	07/15/2003 @ 09:50											
Sampling Location	MCAS EL TORO	Sample Depth	---											
Sampling Point	SWMV198-SB-3-20'	Sample Matrix	Soil											
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-4											
Constituent	Result	Units	POI	Min	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	MB	Lab Bias	Lab Quals
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/19/03	07/24/03	13:48	JST	GC-13A	1			
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	MB	Lab Bias	Lab Quals	
Tetracosane	88	%	45-137	8015M	07/19/03	07/24/03	13:48	JST	GC-13A	1				

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03-06563-4



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50																				
Project Number	---	Sampling Date/Time	07/15/2003 @ 10:00																				
Sampling Location	MCAS EL TORO	Sample Depth	--																				
Sampling Point	SWMV198-SB-3-25'	Sample Matrix	Soil																				
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-5																				
Constituent	Result	Units	POC	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	QC	MB	MB	Batch ID	Bias								
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/19/03	07/24/03	14:14	JST	GC-13A	1												
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	QC	MB	MB	MB	Batch ID	Bias								
Tetraacosane	97	%	45-137	8015M	07/19/03	07/24/03	14:14	JST	GC-13A	1													

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03-06563-5

GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50									
Project Number	--	Sampling Date/Time	07/15/2003									
Sampling Location	MCAS EL TORO	Sample Depth	---									
Sampling Point	759-DUPE-8	Sample Matrix	Soil									
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-6									
Constituent	Result	Units	PoI	MDL	Method	Prep Date	Run Date	Run Time	Instrument	QC	MB	Lab Quals
Diesel Range Organics (C12 - C24)	None Detected	mg/kg	10.	3.	8015M	07/19/03	07/24/03	14:41	JST	GC-13A	1	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	MB	Lab Quals
Tetracosane	95	%	45-137	8015M	07/19/03	07/24/03	14:41	JST	GC-13A	1		

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03-06563-6

GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Project Number	---	Sampling Location	MCAS EL TORO	Sampling Point	SWMV198-SB-3-5	Sampled By	LEO W. WILLIAMSON	Receive Date/Time	07/16/2003 @ 19:50		
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	QC	MB Bias	Lab Quals
Gasoline Range Organics	0.056	mg/kg	0.5	0.023	8015M	07/25/03	07/25/03	11:55	TLF	GC-V8	0.5	302-100397	ND
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	QC	QC	MB Bias	Lab Quals
a,a-Trifluorotoluene (8015 Surrogate)	87	%	70-130	8015M	07/25/03	07/25/03	11:55	TLF	GC-V8	0.5	302-100397	ND	R01

Flag	Explanations
R01	The sample result is between the MDL and PQL.
Comments	
Prepared by	EPA Method 5035.

California DOHs Certification #1186

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03-06563-1



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number											Receive Date/Time	07/16/2003 @ 19:50		
Project Number											Sampling Date/Time	07/15/2003 @ 09:40		
Sampling Location	MCAS EL TORO										Sample Depth	---		
Sampling Point	SWMV198-SB-3-10'										Sample Matrix	Soil		
Sampled By	LEO W. WILLIAMSON										BCL Sample ID	03-06563-2		
Constituent	Result	Units	POL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	QC	Lab	Quals
Gasoline Range Organics	0.028	mg/kg	0.6	0.026	8015M	07/25/03	07/25/03	12:53	TLF	GC-V8	0.55	302-100398	ND	R01
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instrument ID	QC	Lab	Quals	
a,a-Trifluorotoluene (8015 Surrogate)	104	%	70-130	8015M	07/25/03	07/25/03	12:53	TLF	GC-V8	0.55	302-100398			

Flag	Explanations
R01	The sample result is between the MDL and PQL.
Comments	
Prepared by	EPA Method 5035.

California DOHS Certification #1186

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03-06563-2



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---				Receive Date/Time	07/16/2003 @ 19:50										
Project Number	---				Sampling Date/Time	07/15/2003 @ 09:45										
Sampling Location	MCAS EL TORO				Sample Depth	--										
Sampling Point	SWMV198-SB-3-15'				Sample Matrix	Soil										
Sampled By	LEO W. WILLIAMSON				BCL Sample ID	03-06563-3										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Instru.	Analyst	method ID	Dilution	QC	MB	MB Bias	Lab Quat.
Gasoline Range Organics	None Detected	mg/kg	0.6	0.026	8015M	07/25/03	07/25/03	13:22	TLF	GC-V8	0.56	302-100398	ND	ND		
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Instru.	method ID	Dilution	QC	Batch ID	MB	MB Bias	Lab Quat.	
a,a,a-Trifluorotoluene (8015 Surrogate)	94	%	70-130	8015M	07/25/03	07/25/03	13:22	TLF	GC-V8	0.56	302-100398					

Comments
Prepared by EPA Method 5035.

California DOHS Certification #1186

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03-06563-3



BC Laboratories, Inc.

GEOFON

22632 GOLDEN SPRINGS DRIVE, SUITE 270

DIAMOND BAR, CA 91765

Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---				Receive Date/Time	07/16/2003 @ 19:50									
Project Number	---				Sampling Date/Time	07/15/2003 @ 09:50									
Sampling Location	MCAS EL TORO				Sample Depth	--									
Sampling Point	SWMV198-SB-3-20'				Sample Matrix	Soil									
Sampled By	LEO W. WILLIAMSON				BCL Sample ID	03-06563-4									
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Batch ID	QC	MB	LB	Quals
Gasoline Range Organics	None Detected	mg/kg	0.6	0.026	8015M	07/25/03	07/25/03	13:50	TLF	GC-V8	0.55	302-100398	ND		
Surrogate Compounds	Result	Units	Control Limits	Method	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Batch ID	QC	MB	LB	Quals
a,a-Trifluorotoluene (8015 Surrogate)	96	%	70-130	8015M	07/25/03	07/25/03	13:50	TLF	GC-V8	0.55	302-100398				

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03-06563-4



BC Laboratories, Inc.

GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Receive Date/Time	07/16/2003 @ 19:50														
Project Number	---	Sampling Date/Time	07/15/2003 @ 10:00														
Sampling Location	MCAS EL TORO	Sample Depth	---														
Sampling Point	SWMV198-SB-3-25'	Sample Matrix	Soil														
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-5														
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-	Instu-	QC	QC	MB	MB	Lab	Lab
Gasoline Range Organics	None Detected	mg/kg	0.7	0.031	8015M	07/25/03	07/25/03	14:48	TLF	GC-V8	0.66	302-100398	ND	ND	Quats	Quats	
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	Instu-	QC	QC	MB	MB	Lab	Lab	
a,a,a-Trifluorotoluene (8015 Surrogate)	96	%	70-130	8015M	07/25/03	07/25/03	14:48	TLF	GC-V8	0.66	302-100398						

Comments
Prepared by EPA Method 5035.

California DOHS Certification #1186

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03-06563-5

GEOFON
 22632 GOLDEN SPRINGS DRIVE, SUITE 270
 DIAMOND BAR, CA 91765
 Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	Receive Date/Time	07/16/2003 @ 19:50											
Project Number	---	Sampling Date/Time	07/15/2003											
Sampling Location	MCAS EL TORO	Sample Depth	--											
Sampling Point	759-DUPE-8	Sample Matrix	Soil											
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-6											
Constituent	Result	Units	POL	MDL	Method	Prep Date	Run Date	Run Time	Instrument	Method ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Gasoline Range Organics	0.052	mg/kg	0.6	0.025	8015M	07/25/03	07/25/03	15:17	TLF	GC-V8	0.54	302-100398	ND	R01
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Instrument	Method ID	Dilution	QC Batch ID	MB Bias	Lab Quals	
a,a-Trifluorotoluene (8015 Surrogate)	91	%	70-130	8015M	07/25/03	07/25/03	15:17	TLF	GC-V8	0.54	302-100398			

Flag	Explanations
R01	The sample result is between the MDL and PQI.
Comments	
Prepared by	EPA Method 5035.

California DOHS Certification #1186

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03-06563-6



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Volatile Organic Analysis (EPA Method 8260)

COC Number	Result	Units	POC	MDL	Method	Prep Date	Run Date	Time	Analysis Method ID	Dilution	QC	MS Bias	Lab Quals
Benzene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Bromodichloromethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Bromoform	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Bromomethane	None Detected	mg/L	0.0010	0.00040	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Carbon tetrachloride	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Chlorobenzene	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Chloroethane	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Chloroform	None Detected	mg/L	0.00050	0.00016	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Chloromethane	None Detected	mg/L	0.00050	0.00019	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Dibromochloromethane	None Detected	mg/L	0.00050	0.00014	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
1,1-Dichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
1,2-Dichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
1,1-Dichloroethene	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
cis-1,2-Dichloroethene	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
trans-1,2-Dichloroethene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
1,2-Dichloropropane	None Detected	mg/L	0.00050	0.00014	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
cis-1,3-Dichloropropene	None Detected	mg/L	0.00050	0.00015	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
trans-1,3-Dichloropropene	None Detected	mg/L	0.00050	0.00013	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Ethylbenzene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Methylene chloride	0.0023	mg/L	0.0010	0.00011	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Styrene	None Detected	mg/L	0.00050	0.00021	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
1,1,2,2-Tetrachloroethane	None Detected	mg/L	0.00050	0.00026	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND
Tetrachloroethene	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	ND

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03-06563-1 SPID



Volatile Organic Analysis (EPA Method 8260)

Sample Description MCAS E1 TORO, SW/MV198-SB-3-5', 07/15/2003 @ 09:25, LEO W. WILLIAMSON

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Instrument	Dilution	QC Batch ID	MB Bias	L16 Quarts
Toluene	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470
1,1,1-Trichloroethane	None Detected	mg/L	0.00050	0.00016	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470
1,1,2-Trichloroethane	None Detected	mg/L	0.00050	0.00018	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470
Trichloroethene	None Detected	mg/L	0.00050	0.00015	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470
Vinyl chloride	None Detected	mg/L	0.00050	0.00024	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470
Total Xylenes	None Detected	mg/L	0.0010	0.00062	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470
Acetone	None Detected	mg/L	0.020	0.0069	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470
t-Butyl Methyl ether	None Detected	mg/L	0.0010	0.00029	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
t-Butyl alcohol	None Detected	mg/L	0.012	0.0031	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
Carbon disulfide	None Detected	mg/L	0.0010	0.00068	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
Diisopropyl ether	None Detected	mg/L	0.0010	0.00023	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
Ethyl t-butyl ether	None Detected	mg/L	0.0010	0.00032	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
2-Hexanone	None Detected	mg/L	0.020	0.0071	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
Methyl ethyl ketone	None Detected	mg/L	0.020	0.0039	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
Methyl Isobutyl ketone	None Detected	mg/L	0.020	0.0032	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
Methyl t-butyl ether	None Detected	mg/L	0.00050	0.00017	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
Vinyl acetate	None Detected	mg/L	0.020	0.0071	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	320-100439
Surrogate Compounds												
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Instrument	Dilution	QC Batch ID	MB Bias	L16 Quarts	
1,2-Dichloroethane-d4	112	%	76-114	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	
Toluene-d8	102	%	88-110	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	
4-Bromo Fluorobenzene	100	%	86-115	8260	07/28/03	07/31/03	20:14	LAM	MS-V4	1	319-100470	

Flag	Explanations
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
Comments	
Methylene Chloride in SPLP PB at 0.0014mg/L.	

California DOHS Certification #1186

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03-06563-1 SPLP



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attr: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	--	Receive Date/Time	07/16/2003 @ 19:50											
Project Number	--	Sampling Date/Time	07/15/2003 @ 09:25											
Sampling Location	MCAS EL TORO	Sample Depth	---											
Sampling Point	SWMV198-SB-3-5'	Sample Matrix	Soil											
Sampled By	LEO W. WILLIAMSON	BCL Sample ID	03-06563-1SPLP											
Constituent	Result	Units	PoI	MDL	Method	Prep Date	Run Date	Run Time	Analyst	First Run	First QC	QC	MB Bias	MB Quat
Diesel Range Organics (C12 - C24)	None Detected	mg/L	2	0.66	8015M	08/06/03	08/07/03	18:57	JST	GC-13A	1			
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	First Run	First QC	QC	MB Bias	MB Quat	
Tetracosane	69	%	40-130	8015M	08/06/03	08/07/03	18:57	JST	GC-13A	1				

Comments
SPLP extract analyzed.

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03-06563-1SPLP



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Fuel Identification / Quantitation Summary (EPA Method 8015M)

COC Number	Project Number	Sampling Location	Sampling Point	Sampled By	Receive Date/Time	Sampling Date/Time	Sample Depth	Sample Matrix	BCL Sample ID	03-06563-5SPLP
---	---	MCAS EL TORO	SWMV198-SB-3-25'	LEO W. WILLIAMSON	07/16/2003 @ 19:50	07/15/2003 @ 10:00	---	Soil		
Diesel Range Organics (C12 - C24)	None Detected	mg/L	2	0.66	08/06/03	08/07/03	19:24	JST	GC-13A	1
Surrogate Compounds	Result	Units	PQL	MDL	Prep Date	Run Date	Run Time	Analyst	Instrument	QC
Tetacosane	64	%	40-130	8015M	08/06/03	08/07/03	19:24	JST	Batch 1B	MB
									Batch 1B	Bias
									Batch 1B	Quals
									Batch 1B	Quals

Comments

SPLP extract analyzed.

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03-06563-5SPLP



GEOFON
22632 GOLDEN SPRINGS DRIVE, SUITE 270
DIAMOND BAR, CA 91765
Attn: LEO W. WILLIAMSON

Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---				Receive Date/Time	07/16/2003 @ 19:50							
Project Number	---				Sampling Date/Time	07/15/2003 @ 09:25							
Sampling Location	MCAS EL TORO				Sample Depth	--							
Sampling Point	SWMV198-SB-3-5'				Sample Matrix	Soil							
Sampled By	LEO W. WILLIAMSON				BCL Sample ID	03-06563-1SPLP							
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	MB	Lab Quals
Gasoline Range Organics	None Detected	mg/L	0.050	0.0018	8015M	07/28/03	08/01/03	10:45	HKS	GC-V5	1	298-100366	ND
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instrument	QC	MB	Lab Quals	
a,a-Trifluorotoluene (8015 Surrogate)	100	%	70-130	8015M	08/01/03	08/01/03	10:45	HKS	GC-V5	1	298-100366		

California DOHS Certification #1186

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03-06563-1SPLP